IIIaJ	G12	July 9/10					
HIE	G12/24	Sept 9/10		200/250	10-10-10		
IV-N	G24	78 Jan 15/16		40/200 AO	20-20-20 No	-s/wk	
III aJ	G12 new	Feb 19/20	Try	200/130	Arc 3-3-3 no Filt #42322	Slit 13	
IIaO	G12 new	Feb 19/20	Try	400/105	Arc 7-7-7 with for NOhio A or B type	Slit 13	

3

Spectr. Ten
Focus.....
Spectr. Ten
Exp. Mtr.

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 4

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				G65	/		098-02		with wratten filter		
				David Dunlap Observatory							
				74" Logbook							
				Volume 51							
				Plate Nos. 41672 - 42538							
				June 1977 — April 1978							

5

Emulsion Batches: IIa0-E 14017 – 15067

Date ~~Tues Jun 20-21 1977~~ Observers Bd-R

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
41672	HD 134305	15 04.0	+12 52	21:13	00:30	03 02 W	+12 31	Fe ARC D1.10	10-10-1	400/17
41672T1	spect cal step for plate 41672 - 74				15 min @	15 Volts	D4 39 00	D2 43 00	D2 48 10	
H167272	step cal. for plate 41672 - 74				90 sec					
41673	HD 168481	18h 14.8	+15° 47	00:35	03:08	02 29 W	+15° 54	Fe ARC N.D. 1.10	10-10	400/120
41674	HD H1610 (28 Cyg)	20h 05m 48s	+36° 33'	03:10	03 40	01 11 W	+36° 49	Fe ARC N.D 1.10	10-10	120/101
41674F1	focus test			0-R	Temp 58°F			NO FILTER	5/5	

Spectr. Temp. ....66°F..... Dome Temp./Hum. ..17°C...94% Transparency Conditions ..good..a little hazy.....6

Focus .....OR.....

Spectr. Temp. ....58°F..... Dome Temp./Hum. ..13°C...98% The shortest night of the year

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
ARC	10-10-10	400/120	3-4"	7.24	A7	G12	G12/.490B	13/.5	IIaO-E	A	Ap MR	comparison lines doubled	
									IIaO-E				ok
									IIaO-E				✓
ARC													
Q 1.10	10-10	400/120		7.08	F0	G-12	G12/.490B	13/.5	IIaO-E	B	Ap-MR		fine
ARC													
Q 1.10	10-10	200/101	3-4	4.98	B5Ve	G-12	G-12/.490B	13/.9	IIaO-E	A	Sp Bar-Bk		v sl str
10													
ILTER	5/5					G-12	G-12/.490B	9	IIaO-E	B	plates in	exposed Box #3	center v sl to blue
						8m D19	68°F	.20	1.70				

7

Date Tues Wed June 21-22 1977 Observers B-R

Emulsion Batches:
IIaO-E 14017 - 20067
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41675	HD 137182	15 19.5	+1054	20:52	23 43	02 03W	+10°45	Fe ARC N.D. 1.10	10-10..
41675T1	spot cal. for plate 41675-	76		15 min	@ 15 Volts	D4 3900	D3 4300	D2 4810	
41675T2	strip cal for plate 41675-	76		90 sec					
41676	HD 156547	17h 13.1	+26°00	23:47	01 55	02 23W	+26 00	Fe ARC N.D. 1.10	10-10-1x
41677	HD 176003	18h 53.0	+44° 05'	01 58	03 48	02 36W	+44°17	"	10 10-1x
41677 T1	strip cal for	41677		60 sec					

Spectr. T
Focus..
Spectr.

Exp. Mtr.
400/12
400/110
400/92

Spectr. Temp. ....65°F..... Dome Temp./Hum. .18°C...61% Transparency Conditions .Sl...Haze.....

Focus .....5R.....

Spectr. Temp. ....60°F..... Dome Temp./Hum. .16°C...85%

Comparison/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Arc	10-10-1	400/120	2-3	7.19	A0	G12	G12/490B	13/5	IIaOE	A	Am MR		
D2									IIaO-E				
4810									IIaO-E				
Arc	10-10-1	400/110	2-3	7.04	A1	G-12	G12/490B	13/5	IIaO-E	B	Am-MR		fine
"	1010-1	400/92	3-5	7.00	A1	"	"	"	"	A	"	Some Cloud * pushing dawn	fine
									"				
						8m Dig 69°F							
												* OVERDEVELOPE Right half of exposed Box #3	

9

Date Wed/Thurs June 22/23 Observers Rm-Ri

Emulsion Batches: IaO E 14017 - 20067

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
41678	HD 141458	15h 49.1	+13° 01	20h 50	22h 20	00 20W	+12° 53'	Fe Arc ND 1.10	10-10-10	400/100
						L4	D3	D2		
H1678T1	spot cals for plate	41678 - 41683			15 min @ 15 Volts	3910	4300	4810		
41678T2	step cal for plate	41678 - 41683			90 sec					
41679	HD163506 (89 Her)	17h 51m 23	+26° 04'	22 29	22 58	01 09E	+26° 09	Fe Arc N.D. 1.10	10-10-10	400/140
41680	HD186688 (SU Cyg)	19h 40m 48s	+29° 01.4	23 05	00h 10	01 46E	+29° 20'	"	8-8-8	400/141
41681	HD187921 (SV Vul)	19h 47m 25s	+27° 12.3'	00 15	02 16	00 13W	+27° 29	"	8-8-8	200/286
41682	HD203456	21h 15m 23s	+37° 49	02 20	03 02	00 28E	+38° 15	"	10-10-10	400/141
41683	HD191610 (28 Cyg)	20h 05m 43s	+36° 33	03 04	03 31	01 10W	+36° 51	"	10-10-10	200/103

Spectr. Temp. ..6.5°F..... Dome Temp./Hum. ..18°C 75%.. Transparency Conditions .. Photometric, excellent 10

Focus .....5R.....

Spectr. Temp. ..61°F..... Dome Temp./Hum. ..09°C 90%.. exposed #Box 3

Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Arc 10.1.10	10-10	400/100	2"	6.80	A0	G12	G12/.490	9/.5	IIaO E	A	5B. Blu		
									IIaO-E				
									IIaO-E				
Arc 10.1.10	10-10	400/140	2	5.82	F2Ie	G-12	G12/.490B	13/.5	IIaO-E	B	Cepheid-Rm		
"	8-8	400/141		6.8-7.66	F0-G1	"	"	20/.5	"	A	"		
"	8-8	200/286		7.88-9.55	F7Iab K0Iab	"	"	20/.5	"	B	"	BROKEN 2 PIECES	v sl wk.
"	10-10	400/141		5.89	F2	"	"	13/.5	"	A	"		
"	10-10	200/103		4.98	B3Ie	"	"	13/.9	"	B	Sp Bri-Bk		
				8m	D19	68°F	.19 1.68						

4

Date 23/24 June '77 THU/FRI Observers Blu.-R.-Vickers

Emulsion Batches:
IIa-E 14017-20067
IIa-E* 14017-23067

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41684	HD 141458	15h 44.1	+13° 01	20:55	22:52	00h 55W	+12° 55'	Fe Arc ND 1.10	12.12
41684T1	opt. calib. for plates 41684-41685			15 mm @ 15 Volts		D4 3900 D3 4800 D2 4810			
41685	HD112019	12h 48m 16s	+83° 58'	23:15	01:33	06h 33W	+83° 27	Fe Arc ND 1.10	10+0-2
41685T1	calib. step wedge for plates 41684-41685			90 sec					
41686	HD186791	19h 91.5	+10° 22'	01:39	01:50	00h 03E	+10° 39'	Fe Arc ND 1.10	10-10.1
41687	"	"	"	01:55	02:15	00 22W	"	Fe Arc ND 1.10 UV Filter	7-7-7
41687T1	calib. step wedge for plates 41686-87			90 sec					
41687F1	focus test of Q 168		focus 60R					ND Filter	10.0
41687F2	focus test of Q-12		focus 0R					ND Filter	5-5

Spectr. Temp. ...68°F..... Dome Temp./Hum. ...74°F/79%... Transparency Conditions ...part.....12.

Focus .....OR.....

Spectr. Temp. ..... Dome Temp./Hum. ...59°F/92%... elapsed 13hr #3

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/100	2-3	6.80	AO	G-8	G8 1km pant OB	9/3	IIa0-E	A	Sp Bin - Bln		
400/200	2-3	5.81	AO	G12	G12/ 0.490	13/5	IIa-0E	B	Sp. Bin - Bln	cloud	
							IIa-0E				
80/30	2	9.15	K3II	G12	G12/ 0.490	13/5	IIa-0E*	A	RV Std	Fe ARC WINDOW smoked up cloud	
8y/15	2	"	"	G16B	G16B/ .380	13/5	IIa0-E*	B	"	Focus 60R "	
							IIa0-E*			"	
						9	IIa0-E*	B			
						9	IIa0-F*	B			
			8m D19 68°F		.18 1.70						

13

Date 24/25 JUNE .... Observers ... L.y.-Ri.....

FRI/SAT

Emulsion Batches:
IIa-O .....
IIa-F .....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41688	HD 124897	14 M.1	+19 42	21:08	21:12	+00 52W	+19 25	Fe Arc ND 1.10 UV Filter	7-77
41689				21:16	21:20	+01 08W		Fe Arc No Filter	10-10
41690				21:33	21:36	+01 16W		Fe Arc No Filter	10-10
41691				21:38	21:44	+01 25W		Fe Arc No Filter	10 10
41692	HD 131511	14 48 52	+19 33	22:00	22:[illegible]	+01 [illegible]W	+19° 20	"	7-14
41692.1	Cal step wedge in plate 41689-92				Same				
41692.2	Cal step wedge in plate 41688.				Same				
41692 F1							+19 20	Fe Arc No Filter	10-10

Spectr. Te
Focus...
Spectr. T
Exp Mtr
80/20
10/10
5/5
20/20

Spectr. Temp. 69° F ..... Dome Temp./Hum. 20° 90% ..... Transparency Conditions ... Poor ... 4 ...
cloudy

Focus ... 10B ... for G12 ...

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Filter	Comparison Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		80/20	2"	1.29	K2III	G16B	G16B/ 380	9/.5	IIaO-e	A	RV STD	Focus SOR	
		80/20				G24R	G24/ 380		IIaF-e	B		W4 Filter in	v sl str
		80/20							IaF-e	A			sl str
		80/15							IIaF-e	B			fine
		820/ 39						13/3		A			v wk
									IIaF-E				
									IIaO-E				
						G24R		4/	IIaF-e	B			center v sl blue
											IIaF in	eposed Box #3	
											IIaO in	eposed Box #1	
				IIaF	5m	Dig	68° F						

15 Visitors 2.3

Date 25/26 June 1977 Observers KK-Ri

Emulsion Batches: 098:02 20047-17067

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41693	HD 201091	21 02.4	+38 15	22 59	0 12	2 54 E		NO Filter	7-7-7
41694	HD 201092	21 02.4	+38 15	00:15	1:03	2 03 E		"	7-7-7
41694F	focus test							"	10-10
41695	HD 173740	18 41.8	+59 29	01:18	3:31	2 48 W	+59°36	Fe ARC NO 1.0	8-8-8
41695T1	spot exp for plates 41693-95.				15 min	15U D3 4810	7U D1 Hα	7U D2 5450	

Spectr. Temp. 68° Dome Temp./Hum. 18°C 96% Transparency Conditions clouds immediately 16
Focus 50R after visitors, of course
Spectr. Temp. ..... Dome Temp./Hum. 15°C 99% exposed Box #3

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/101		V=5.2	K5V	G 24R	0.38	13/.5	098-02	A	Asm-Sp KK	61 Cyg A; clouds; Wr 4	fine comp str.
800/92		V=6.0	K7V	G24R	0.38	13/.5	098-02	B	Asm-Sp / KK	61 Cyg B; clouds, Wr4 filter	comp sl str fine
				G24R	0.38	9	098-02	B		focus = 50R	good
800/15	3-4"	V9.7	dH4	G65	0.490	20/.4	"	A	Asm-Sp/kK	clear at start, then haze, clouds, fog, etc. was not refocused!	out of focus
		098	5m	D19 68°F	.19 1.55		Fri/Sat/Sun developed together				

17

Date June 26/27 (Sun/Mon) 1977 Observers ... BB-Ri .....

Emulsion Batches:
098-02: 20047-17067
IIaO-E - 14017-23067
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41696	HD134319 (TW Lup)	$15^h 32.4^m$	+64°14′	21:00	21:24	0 06 E	+64°21′2	Fe ARC ND 1.10	8-8-8
41697	HD191240 (SW Cyg)	$20^h 3.8^m$	+46°01′	21:34	23:20	2 43 E	+46°17′.4	"	-8-8
4169711	spot exp. for plates	41696 - 41699			15 min	7U D2 5450	7U D1 412	15U D3 4810	
41698	HD191240 (SW Cyg)	$20^h 3.8^m$	146°01′	23:21	1:13	0 49 E	+46°16′.8	Fe ARC ND 1.10	8-8-8
41699	"	"	"	1:14	2:50	0 47W	"	"	8-8-8
4169971	spot exp. for plate	41700,			15 min @ 15 volts	D4 3900	D3 4300		D2 4810
41700	HD191610 (3XCyg)	$20^h 0.5^m 43^s$	+36°33′	3:01	3:25	1 19W	+36°51′.6	Fe ARC ND 1.10	10-10-10
4170071	step exp. for plate	41700,	9 sec						
41700F1	focus test out	21/min		68°F (20°C)	10B			NO FILTER	5-5

Spectr. Temp. ...72°F (22°C) Dome Temp./Hum. 22°C/86% Transparency Conditions . excellent with some cirrus clouds 18

Focus 10B

Spectr. Temp. ..68°F (20°C). Dome Temp./Hum. ..20°C....78%

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		800/60	1-2"	7.5v	A6+G5	G-64 with W12 4 Filters	0.490	20/4	098-02E	A	BB edip bin	Ft. companion very faint	fine
		800/60	"	9.5v	A2+K0	"	"	"	"	B	"		v sl wk
									098-02E				
		800/60	2-3"	9.5v	A2+K0	"	"	"		A	"	Flux ~.2-.25 Clouds	v sl wk
		800/60		"	"	"	"	"	"	B	"	clear again	fine
									IIaO-E			In yellow Box mark 4x5 overflow	ok
		200/101	1-2"	4.98	B3Ve	G-12	0.490	13/9	IIaO-E	A	Sp Bin-Blr		
									IIaO-E				
								9	IIaO-E	B		098-02 in exposed Box #3	
												IIaO-E in exposed Box #1	v sl wk
				098 5m		Dig 68°F	0.19 1.81						
				IIaO 8m			.19 1.70						

19

Date Mon/Tues June 27-28 1977 Observers ... Bill - R. .....

Emulsion Batches:
IIaO-E 14017-23067
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41701	HD138406	15h26.8	+62° 05	21.00.00	0115	0354W	+61 53	Fe ARC W.O.110	12-12
41701T1	spectrum for plate 41702.				15min@15volts	39m	43m D3	48 D2 10	
41701T2	step scale for plate 41702.				90m				
41702	HR 1916 ID (21 Cyg)	20 05.7	+36 33	0121	0249	0048W	+36 50	Fe ARC W.O.110	10-10
41702T1	step scale for plate 41701.				60m				

rectr. T
Focus..
Spectr.
Exp Mtr

Spectr. Temp. ....76°F (25°C) Dome Temp./Hum. ..23°C ....70% Transparency Conditions ..hazy with cirrus 20

Focus .....20B.....

Spectr. Temp. ....68°F (20c) Dome Temp./Hum. ..19°C 97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/77	<1" 2"-3"	679	AO	G-12	0.490	9/1.5	IIaO-E	A	Am MR	RHS ½ exposed Box purplish	
							IIaW-E				
							IIaO-E				
1000/220	4"-5"	498	B3VE	G-12	0.490	13/1.9	IIaO E	B	Sp Rn Bln	clouds	v d thr
							IIaO-E			RHS ½ exposed Box	
										exposed Box #3	
	4	1701	4T	10" Dig	69°C	.20	1.57				
	4	1702	4T	8" "	"						

21

Date Wed.-Thurs. Jun 29/30 Observers Pan.-T.N.

Emulsion Batches:
IIa0-e 14017-23067
*IIa0-e 14017-28067

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41703	to [illegible] Cyg	19h 46.8	+29° 01.9	23 20	02 20	00 52W	+29 22	Fe Arc ND ND	10-1/2
41703T	Spot Caln for 41703.			15 min @	15V	D4 3900	D3 4300	D2 4810	
41704	HD 203156	21h 15.4	+37° 49	02 24	03 10	00 07W		Fe Arc ND 1.10	10-12
41704T	Spot Caln for 41704.			15 min @	15V	D4 3900	D3 4300	D2 4810	
41705	28 Cyg = HD 191610	20h 05.7	+32° 33	03 14	03 43	01 50W	—	Fe Arc ND 1.10	10-12
41705T1	Strip Caln for 41703			(Labelled 5T1)	90sec				
41705T2	Strip Caln for 41704-05			(Labelled T2)	90sec				
41705T3	Spot Caln			15 min @	7.5 V	D2 Hα 4m	@ 7.5 D3 Hα		
41706T4	Comp. test							Ne no filter	120s
41707T5	Spot Caln			15 min @ 7.5V	D2 Hα	4m @ 7.5	D3 Hα		
41707F	Focus test							Ne No. Filter	120 120

Spectr. Temp. ...6.2°F..... Dome Temp./Hum. .+17°C./.190% Transparency Conditions ....Very Good.....22...

Focus ....10-R.....

Spectr. Temp. ...59°F..... Dome Temp./Hum. .13°C./.96%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4:00/150	3-4'	6.3-7.7	F0-G1	G12	G12/.490	13/.5	IIaO E	A	Cepheid/Evans		Fine
							IIaO-E				
4:00/23	3"-7"	5.9	F2	G12	G12/.490	13/.5	*IaO-E	B	Ceph/Evans	"	grg
							*IIaO-e				
4:00/100	3-5	9.98	B3IIe	G12	G12/.490	13/.9	*IIaOE	A	SB Blue	" do not use 5	VF? Fine
							IIaO-E				
							*IIaO-E			"	
				G12/24	.490		HIEe				oiz
						13/.5	HIE	A		Wr 4 in	blank
							HIE				diz
						13	HIE	A	T= 60°F F= 15R		blank
				IIaO 8" D19 68°F		.19	1.64	.17	1.68		
				HIE 7" D19 68°F							

23

Date Fri/Sat July 1/2 Observers Ly-Tn

Emulsion Batches: IIaO-E 14017-28067

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41708	HD 131511	14 48.9	+19 33	20 48	23 42	3 12W	+19 22	Feathered ND 1.10	9-9-9
41708T1	Spot Calib for 41708-14				15 min @ 15V	D4 3900	D3 4300	D2 4810	
41708T2	Strip Calib for 41708-14				60 sec				
41709	HD 175426 (8 Lyr)	18 53	+36 51	23 49	00:14	00 16E	+37 02	Fe Arc ND 1.10	9-9-9
41710	"	"	"	00:17	00 57	00 26W	"	"	9-9-10
41711	"	"	"	00:58	01:32	01 01W	"	"	10-10-10
41712	HD 222107 (λ And)	23 32.7	+45 55	01:38	02:20	02 53E	+46 26	"	12-12-12
41713	HD 191610 (31 Cyg)	20 05.7	+36 33	02:25	03 02	01 16W	+36 52	"	10-10-10
41714	HD 222107	23 32.7	+45 55	03:06	03 40	01 33E	+46 24	"	13-12-12

28067

Spectr. Temp. 70°F Dome Temp./Hum. +18°C/70% Transparency Conditions Cloudy, streaks 24
Focus 58 intermittent cloud all night
Spectr. Temp. 60°F Dome Temp./Hum. +12°C/85% very gusty

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/117	3"-5"	6.84	dK1	G12	G12/.49B	13/1.5	IIaO-e	A	Asm-KK	Cloud by 21 40-22.20	Fine
							IIaO-e				
							IIaO-e				
400/110	3-4	5.2	B3	G12	G12/.49B	13/1.5	IIaO-e	B	SpBin-Ly	clear	
400/112	3"	"	"	"	"	"	"	A	"	Fe Arcs s/wk	Fine
400/109	3"	"	"	"	"	"	"	B	"	"	vsl sm
200/80		~4.5	G8III	"	"	9/1.5	"	A	HeKBw-Ly	intermittent cloud at start	Fine
200/100		4.98	B3Vc	"	"	13/.9	"	B	SpBiN-Bln	slit dust dirty 050 →	Fine
200/80	2-3"	4.5	G8III	"	"	9/1.5	"	A	HeK Bin-Ly		Fine
				8m DIG 68°F							

25 RASC Tour ≈ 2hrs @ M13 - OK

Date SAT/SUN July 2/3 Observers TN - BK

Emulsion Batches: IIaO-e 14017-28067

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Min.
41715	HD 171586	18 20.6	+4 51	22 16	23 42	0 25 E	+5° 07	Fe Arc ND 1.10	10	40/
41715T	Spot Calc for 41715-18				15 min @ 15V	D4 3900	D3 9300	D2 4810		
41716	HD 171767	18 31.5	+4 52	23 44	03 01	2 52 W	+5 08	Fe Arc ND 1.10	10-10-10	400/132
41716T	Strip Calc for	41715-18					90 sec			
41717	HD 191810	20 05.7	+36 33	3 05	3 25	1 44 W	+36 57	Fe Arc ND 1.10	10-10-	300/100
41718	HD 194093	20 18.6	+39 56	3 29	3 36	1 42 W	+40 20	"	10-10-	

Spectr. T
Focus...
Spectr. T

3067

Spectr. Temp. 65°F Dome Temp./Hum. 16°C / 83% Transparency Conditions Very good

Focus 5-B

Spectr. Temp. Dome Temp./Hum.

* Used same exp Bar as last night.

Comparison Arc / Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Arc	10	400/130	3"	6.5	K2 III	G12	G12/0.498	131.5	IIaO-e	A	WATERLOO		
									IIaO-e			next to strip rack	
	10	400/132	2"	7.8	K0 III	"	G12/0.498	131.5	IIaO-e	B	-"-		
									"				
Arc	10	200/100	2"	4.98	B3 V	"	G12/0.498	131.9	"	A	Sptrie Bln	spec'l Dust on slit	slit—Fine
"	10	200/120	2-3"	2.9	F8 Ib	"	"	"	"	B	Waterloo		slit
						8m Dig 68°F							

27

Date JULY 4/5 1941 Observers B.W.-T.

Emulsion Batches: 20-E 14017—02077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41719	HD 191610 (20Cm)	20 05.7	+36 33	22 48	23 35	01 59 E	+36 57	FE ARC N.D. 1.10	12-12-12
41719 T1	Spot Calib for	41719-20			15 min @ 15V	D4 3900	D3 4300	D2 4810	
41719T2	Strip Calib for	41719-20.			90sec				
41720	HD175588 S2Lyr	18 51.0	+36 46	23 40	00 18	00 01E	+37 03	FE ARC N.D. 1.10	12-6-12
	Want to do S'Lyr for Lg								

Spectr. T
Focus
Spectr.
Exp Mtr

Spectr. Temp. ..76°F..... Dome Temp./Hum. .+23°C./.85% Transparency Conditions ...Hazy → cloudy 29

Focus ...20-B.....

Spectr. Temp. ..... Dome Temp./Hum. +21°C./.93%

Comparison e/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		400/200	2"	4.98	B3 Ve	G12	G12/.498	13/.9	II a O E	A	Sp Bin - Bln		Fine
									"			→	Thin glass!
									"				
		400/64	3"	V= 4.3	M4 II	G12	G12/.498	13/15	"	B	Realized ~~Mistake~~	no field & it looks too red but is bright in finder	Wide
												Thick cloud	
						Em 319 68°F .19							

29

Fri Sat

Date July 8-9 1977 Observers Ly Tn

Emulsion Batches:
Mal-e 8112-19067
Mao-e 19017-02077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41721	HD172167 (Vega)	18 33·6	+38 41	21:09	21:20	02 25 E	+38 44	Fe Arc no Filter	8-10
41722	"	"	"	21 34	21:44	02 02E	"	"	7-14
41723	"	"	"	21:45	21:50	01 55E	"	"	10-15
41724	"	"	"	21:52	22 04	01 41E	"	"	10-15
41724T1	Spot Calib for 41721-24			15 min	@ 15V	D4 4100	D4 4300	D4 4810	
41724T2	Strip Calib for 41721-24			180sec					
41725	HD172026 (1 arm)	18 50·2	+36 51	00:52	01 33	1 31 W	+3657	Fe Arc No Filter	11-11-1
41725T	Spot Calib for 41725				15 min @	15V	D4 3900	D3 4300	D2 4810
41726	HD191610 (2 arm)	2003·7	+36 33	01 39	02 19	1 01 W	+3646	Fe Arc No Filter	11-11-1
41726T	Strip Calib for 41725-26					90sec			

Spectr. Temp. ...70°F..... Dome Temp./Hum. +21°C/90% Transparency Conditions ...Bleh!..... 30

Focus ....10B.....

Spectr. Temp. ...70°F..... Dome Temp./Hum. +19°C/100% heavy to variable cloud then clouded in then partially clear to good but windy

Comparison Filter	Comparison Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		40/~60	3"-NIL	0.24	AoV	G12	G12/.49B	9/5	IIaJ-e	A	Cal Std.	heavy cloud	sl str
	I-A	70/125	2 3 4	"	"	"	"	"	"	B	"	even exposure	sl str
		40/50	"	"	"	"	"	"	"	A	"	even exposure	fine
		40/14	"	"	"	"	"	"	"	B	"	thin cloud gray-thick	v wk
									"			Back of Exp Box	good
									"				
		200/110	3-4	5.4	B3	"	"	3/5	IIaO-e	A	SP Lg	thin cloud RHS	fine
									"		→	Next to strip next	ok
		300/100	3"	4.96	B2½e	G12	G12/.49B	3/.9	"	B	Sp Bin-Eln	thin cloud RHS	v sl str
									"			RHS	
							partially clear		done dropping				
		IIaO	8m	D19	68°F	.21, 1.88							
		IIaJ	5m	D19	69°F	.17, 2.53						Exp Box #3	

31 1 Tour 2 hrs

Date . Sat.-Sun. July 9-10/77 Observers . F.g.i.-T.w.

Emulsion Batches:
IIa-J-e. 14017-02077
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41727	HD 163930	17h 53	+15° 08.9	22:37	03:01	3h 59 W	+15 15	Fe-arc no filter	10-10-7
41727T	2? Spot Calc for 41727+28				15 min @	15 V	D4 D3 3400 4300	D2 4800	
41727T	1 Strip Calc for 41727+28					90 sec			
41728	HD 191610	20h 05.7	+36° 33'	03:05	03.43	2h 30 W	+36 53	1/	12-

Spectr. T
Focus
Spectr.
Exp Mtr.
400/1

Spectr. Temp. 68°F Dome Temp./Hum. 17°C / 87% Transparency Conditions Very good 32

Focus 10-B

Spectr. Temp. Dome Temp./Hum. 14C / 94% Used 1st night ExpBox #3

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/110	4-6"	8.3	F4	G12	G12/	18/.35	IIaO-e	A	RSCVn	some cloud RMS	sl str
		(may have been bumped from				.5)	"			next to last night RSO calib	ok
							"				
400/70	3"	4.98	33Ea	"	G12/	13/.9	"	B	Blu Sq Bin	cloud	v sl str
			8mD19	68°F	.21	1.75					

53

Sun Mon

Date . July 10-11-17. Observers . B.B.-T.H.

Emulsion Batches:
..O.98-02E..20047-30067
I.a.0-e.....14017-03077
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
41729	HD117555 (F2 Comp)	13h 26.1	+24° 44'	20:51	21:44	3 12 W	+24° 37.1	Fe arc Neb. Line	8-8-8	123
41729T	Spot Calc for 41729-31.				15 min @	15V D3 4810	7VD1 Hα	7VD2 5450		
41730	HD136175 (UCrB)	15h 14.1	+32° 01'	21:48	22:21	2 01 W	+31° 51.0	Fe Arc No 1-10	8-8-8	7/11
41730T	Strip Calc for	41729-31			90 sec					
41731	KS Cep	4h 48.6	+80° 06'	22:40	0:15	9 48 E	+80° 51.4	"	8-8-8	
41732	HDR1610 (20 Cep)	20h 5.7	+36° 33'	1:01	1:55	0 45 W	+36° 52.7	"	11-11-11	
41732T1	Spot Calc for 41732-33.				15 min @ 15V	D4 3400	D3 4300	D2 4810		
41732T2	Strip Calc for 41732-33.				90 sec					
41733	HD223107 (λ And)	23h 32.7	+45° 5'	2:01	2:52	1 46 E	+46° 26.6	Fe arc Neb. Line	12-12-12	7/16
41733F	Focus Test									

Spectr. Temp. 67°F ..... Dome Temp./Hum. 18°C / 82% Transparency Conditions .. Fair ... some thin cloud ..

Focus .... 10-R ..... prob 10B ..

Spectr. Temp. 62°F ..... Dome Temp./Hum. 14C / 85%

34

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60/43	2-3	3.7v	3Ge	665	0.490	20/.4	098-02	A	Bln edp bin	Flux ~ .135	fine
							"			In Kodak Box - middle	
60/61	2"	7.65v	B5	"	"	"	"	B	3B edp bin	Flux ~ .6-.9	fine
							"				
300/24	2-3"	10.0v	A5e	"	"	"	"	A	"	* RK Flux ~ .1-.2 - cloud by 0:10	wkr ← Push
400/200	3"	4.98	B3Ve	G12	"	13/.9	IIaOe	B	Bln Sp Bin	Thick cloud	
							"			In Kodak Box (at end)	
							"			RHS small Ey Box	
400/162	3"	3.75	G8	G12	"	9/.5	"	A	Ly Sp Bin	Thick cloud again	fine
				G12		9	"	A	5/5	no filter	center to blue
IIaO 8m D17 68°F											
098 5m D19 69°F				.24	2.50					* Telescope is in N. Hemi	
except 41731 8m 68°					PS More IIaO needed					of Exp Box - (3B not	
										used at beginning of night at present Code	

35

Tuesday / Wednesday

Date ..July.12:13.1.77... Observers ..Tm...Gies.....

Emulsion Batches:
IIaO..14077-14077.....
127-05..0005-..11077.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparisor Type/Filter	Comparisor Ex.
41734	HD 191610 (28 Cyg)	20h 05m.7	+36° 33'	20:46	21:28	3 34E	+36° 50'	Fe Arc ND 1.0	12-12
41734T1	Spot Calib for 41734-39				15 min @ 15V		D4 D3 3940 4300	D2 4540	
41734T2	Strip Calib for 41734-39			90sec					
41735	5 Lyrae HD175426	18h 00m.=	+36° 51'	21:35	22 02	145E	+37 00	Fe Arc ND 1.0	12-12
41736	HD186088 (S1 Cyg)	19h 40m 1m.5	+34° 00'.4	22:07	23:47	0:53E	+2916	Fe Arc ND 1.0	12-12
41737	HD191610 (28 Cyg)	20 05.7	+36 33	23:30	00:25	0.37E	+36 50'	Fe Arc ND 1.0	12-12
41738	HD191610 (28 Cyg)	20 05.7	+36 33	00:30	01:01	0:01E	+36° 50'	Fe Arc ND 1.0	12-12
41739	HD191610 (28 Cyg)	20 05.7	136 33	01:06	01:39	0:37W	+36° 50'	Fe Arc ND 1.0	12-12
41740	HD213087 (32 Cep)	22 16.7	+37 50	01 45	03:03	0 10E	+2817	UV Filter No ND	8-8
41740T1	Spot Calib for 41740			15 min @ 7.5V		D4 D2 D3 5100 HQ 5450			
41740T2	Strip Calib for 41740			180sec					

Spectr. Temp. 75°F Dome Temp./Hum. 24°C / 92% Transparency Conditions Hazy

Focus 20-B

Spectr. Temp. 72°F Dome Temp./Hum. 21° / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/100	2-3	4.98	B3Ve	G12	G12/0.498	131.9	IIaO-e	A	Bm SB	LHS	fine
							"			* next to strips	
							"			LHS	
200/60	2"	5.4	B3	G12	G12/0.498	131.5	"	B	Ly Algol	LHS	fine
200/92	1-2"	6.8-7.7	FO-G1	G12	"	131.5	"	A	Evans-Eglund	LHS	sl wk
200/100	2-3	4.98	B3Ve	G12	"	131.9	"	B	Bk-SB	LHS	v sl str
200/100	"	4.98	B3Ve	G12	"	131.9	"	A	BCn-SB	LHS	v sl str
200/97	"	4.98	B3Ve	G12	"	131.9	"	B	BC-SB	LHS ↙ H-99%	broken v sl str
40/75	1-3"	4.83	B7V	G16	G16/0.78	131.5	127-05	A	Algol Std	getting foggy RHS	
							"			* Bottom of Exp Box	
							"			RHS	
			IIaO	8m	D19	60°F	.17	1.47		Too wet to continue, even	
			127	5m	"	"	.17	2.51		through another Exp 28 min file	

37 Mon - Tues

Date Tues 15 Nov 77 Observers Rm - Ri

Emulsion Batches:
IIaO - E 14017 - 11077
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison E>
41741	HD 16 3506 = 89 Her	17h 57.4	26° 9	21:14	21:49	00 55E	+26° 09	Fo [illegible]	7-7-
41742	HD 186688 = SVCyg	19h 40.8	+29° 01.4	22 04	00:53	00h 20W	+29° 19'	Fo ARC ND 1.00 UV FILTER	7-7
41742 T1	Spot Calib for 41741-46				15 [illegible]	15V	D4 D3 3700 4300	D2 4810	
41742 T2	Step Calib for plate 41741-46.				90				
41743	HD 186 791 (8 Aql)	19h 41.5	+10° 22'	01:05	01 19	00h 40W	+10° 41'	Fo ARC CO 1.10 FILTER	12-12
41744	HD 203156	21h 15m 23	+37° 49'	01:25	02:25	00h 16W	+38° 14'	"	7-7
41745	HD 213306 (5 Cep)	22h 25m 27	+57° 54.2	02.33	02:51	00h 27E	+58° 24	"	7-7
41746	HD 191610 (28 Cyg)	20h 05 43	+36° 33	03:11	03:47	02h 49W	+36° 54	Fo ARC NO. 1.10	12-12
41746F1	focus test on Al/in		69°F	focus 10B				NO FILTER	5/5

Spectr. Temp. ....7.3°F..... Dome Temp./Hum. 22°C...80% Transparency Conditions ...Excellent...but the 38 seeing is not too hot

Focus ...1.0B.....

Spectr. Temp. ...6.2°F..... Dome Temp./Hum. ...17°C...98%

Comparison Type Filter Ex	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	30/90		5.82	F2 Ia	G16B	G16B/.380	13/5	IIaO E	A	Cepheid E vano	for this grating 50R from UV Filter & Lyo blue	vslstr
	60/180	3-4	6.8-7.66	F0 G1	G16B	G16B/.380	13/5	IIaO-E	B	"	"	
								IIaO-E				edge broken
								IIaO-E				
	80/26	3-5	4.15	K3II	G16B	G16B/.380	9/5	IIaO-E	A	Sgr Vul.	"	fine
	100/90		5.89	F2	G16B	G16B/.380	13/5	IIaO-E	B	Cephid-Evno	"	vslstr
	120/87		4.1-5.2	F5Ib G0Ib	"	"	"	"	A	"	"	vslstr
	80/100		4.98	B3Ve	G-12	G12/.490	13/9	IIaO-E	B	Sp Bn-Bk	refocused to 10B	vslstr
							9	IIaO-E	B			good
				8m	D19	68°F	.19	1.69				

341

Date Jul 14,15 1977 Observers Bh Ri

Emulsion Batches:
IIaO-E 14017-14077
127-05 E 00075-11077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
91747	HD 191610 = 28 Cyg	20h 05m 7s	+36° 33	22:03	22:41	02h 14E	+36° 52'	Fe Arc N.O. I.O	12-12
41748	HD 212 097 = 32 Peg	22h 16.7	+27° 50	22:49	03:45	00 38W	+28° 19'	Fe Arc NO UO UV Filter	8-8
4174871	spectra to plate 41747				15 min @ 15 volts		D4 3900	D3 4300	D2 4810
4174872	step cals to plate 41747				90 sec				
4174873	spectra to plate 41748				15 min @ 7.5 W		D4 5100	D2 40	D3 5450

Spectr. Temp. 74°F Dome Temp./Hum. 22°C Sat. Transparency Conditions

Focus 20B

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
50/100	1"	4.98	B3Ve	C-12	C-12/1490	13/19	IIaO-E	A	Sp. B.a-B1a		
50/500	1"	4.83	B8I	C-16R	C16/1700	13/1.5	127-05	B	Algol Std.	UV filter in	v<1 wk
							IIaO-E				
							IIaO-E			IIaO-E in exposed Box #3	
							127-05			127-05 in exposed Box #2	
				IIaO 8m Dig 68°F			.18 1.62				
				127 5m Dig 68°F			.20 2.62				

41

Date July 15-16, 1977 Observers by-Ri

Emulsion Batches:
Tao-E. 14017 - 14097
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41749	HD161868 (λ Oph)	17 [illegible]	+02 45	22:30	22:51	100 22W	+02 50	1% Nec ND 1.10	12-12
41750	HD173426 (δ' 1 Aql)	18 50.2	+36 51	22:56	23:16	00 19E	+37 02	"	
41751	HD191610 (70 Cyg)	20 05.7	+36 33	23:21	23:39	01"11E	+36 51	"	
41751TL	spectrum calib for plate 41749-	54			15min @	15min @	D4 D3 3960 4300	D2 4810	
41751T2	spectrum calib for plate 41749-	34			90sec				
41752	HD175426 (δ' 1 Aql)	18 50.2	+36°51	23:44	00:01	00 26W	+37 02	Fe NEC ND 1.10	12 12
41753	HD226868 (Cyg X-1)	19h 54.6	+34° 56	00:15	03:00	02 21W	+35°16'	Fe NEC ND 1.10	7 7
41754	HD 222107 (λ Aqr)	23h 32.7	+45°55	03:10	03:50	00 26E	+46 25	Fe NEC ND 1.10	12 B
	41753 contains some quite streaky at end of exposure (stuck to plate holder)								
	41754 interrupted by clouds several times during 1st 40 cents.								

Spectr. Ter
Focus....
Spectr. Te
Exp Mtr.

Spectr. Temp. 75°F ..... Dome Temp./Hum. ...23°C/74% Transparency Conditions ..Poor..then good..then hazy thin light cloud

Focus ....20B.....

Spectr. Temp. ...73°F..... Dome Temp./Hum. ...22°C/...100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60/50	3-4"	3.71	A0	G12	G12/.490	13/.5	IIaO-c	A	Sp Bu-Ly		fine
60/113	3"	5.3	B3	"	"		"	B	Sp Bin-Ly		fine
60/98		4.83	B3Ve	"	"	13/9	"	A	Sp Bin-Bln		fine
							IIaO-E				
							IIaO-E				
60/115	2"	5.3	B3	G-12	G12/.490	13/.5	IIaO-E	B	Sp Bu-Ly		fine
60/124	2"	9.94	O9.7IIa6	G16B	G16/.380	18/.4	IIaO-E	A	Sp Bu-Blu	UV FILTER IN focus set at 40R	wk
60/E3	3-7"	3.75	G8 III-IV	G12	G12/.490	9/.5	IIaO-E	B	40K Bin Ly.	reformed set at 20B (cloud) cloud	fine
			IIaO	8m D19	68°F .19	1.58			exposed plates in Box #3		

43

Cal Sun

Date July 16/17 1977 Observers FHK-RI

Emulsion Batches:
Ha O E 14017 - 14027
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41755	HD 147547	16 17.5	+19 23	21 19	22 36	1 38W	19 19	Fe ARC NA H10	12-12-
41756	HD 175588	18 51.0	+36 47	22 42	0 20	0 54W	+36°39	"	12-12-
41756T1	spot cals for plate	41755-60			15sec @ 15sec	D4 3900	D3 4300	D2 4810	
41756T2	step cals for plate	41755-60			90sec				
41757	HD 187013	19 42.6	+33 30	0 25	0 50	0 36W	+33°47	Fe ARC H10	12-12-
41758	HD 196758	20 34.3	+ 0 09	0 56	1 52	0 36W	+00°34	"	12-12-
41759	HD 218634	23h04.5	+08° 08'	1 56	3 06	1 40E	+08°40'	"	12-12-
41760	HD 3627	0 34.0	+30 19	3 10	3 20	1 55E	+30°52'	"	12-12-

Spectr. Te
Focus...
Spectr. T

Exp. Mtr.	
5m/50	
2' 32	
1m	
200	
240	2
3m	20

Spectr. Temp. ...80°F..... Dome Temp./Hum. ...26°C....94% Transparency Conditions ...hazy with some clouds around.....

Focus .....30B.....

Spectr. Temp. ...75°F..... Dome Temp./Hum. ...23°C....100%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		2:37/50	2'	4.0	Ao II	Q-12	GR/.490	13/.5	IIaO-E	A	Interior		fine
		2:39/132	2'	5.9	H+ III	"	"	13/.5	IIaO-E	B	"	clouds	v. slk
									IIaO-E			BROKEN 2 pieces	
									IIaO-E				
		2:40/180	2'	5.5	F5 V	G12	G12/.490	13/.5	IIaO-E	A	"		fine
		2:40/200		6.2	K0 III	"	"	13/.5	IIaO-E	B	"		v sl wk
		2:40/240	2-3	6.6	M2 III	"	"	"	"	A	"	Broken 5 pieces *	
		2:40/90		4.6	K3 III	"	"	"	"	B	"		fine
				I00 8m	Dry 65°F					~~A~~	in small exposed Box #3		
											exposed plates in Box #3		

45

Date Sun Mon July 17 18 1977 Observers ..... B.B. - R. .....

Emulsion Batches:
098-07 - 10017 - 30067
IIa-0-E 11017 - 14077
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.
41761	HD139319 (TW Dra)	15h 32.4	+64° 14′	20:50	21:03	0 54 W	+64° 05′ 8	Fe arc N.D. 1.10	8-8-8	5.0/61
41762	HD191240 (SW Cyg)	20h 3.8	+46° 01′	21:10	22:31	2 09 E	+45 20′ 8	"	8-8-8	8.0/60
41762T1	spectral calib. for plate	41761-66			15 min	15V D3 4810	7V D1 Hα	7V D2 5450		
41763	HD5679 (ν Cep.)	00h 59.9	+81° 45.1	22:41	23:02	6 33 E	81° 53′ 1	Fe ARC N.D. 1.10	10-10-10	5.7
41764	" "	"	"	23:07	23:25	6 09 E	"	"	10-10-10	8.7/73
41765	" "			23:27	23:50	5 45 E	"	"	10 10 10	8.7/35
41766	(RS Cep)	04h 48.6	+80° 06′	0:01	3:00	6 33 E	+80° 21′ 8	"	8-8-8	5.1/54
41766T1	spectral calib. plate	41767-68			15 min @ 15 volts	D4 3800	D3 4350	D2 4810		
41767	HD191610 (28 Cyg)	20h 5.7	+36° 53′	3:12	3:29	2 45 W	+36° 54′ 2	"	12-12-12	8.7/62
41768	HD223107 (1 And)	23h 32.7	+45° 55′	3:33	3:46	0 23 E	46 25.3		13-13-13	8.7/33

Spectr. Temp. ....78°F (26°C) Dome Temp./Hum. 26°C 9% Transparency Conditions ...excellent.....

Focus .....25B.....

Spectr. Temp. .....74F..... Dome Temp./Hum. ...22°C...98%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/61	1-2"	7.5V	A6	G65	0.490	20/1.4	098-02	A	BB eclip bin.	WR4 Filter in V. sl wk	
00/60		9.5V	A2	"	"	"	"	B	"	"	wk
							"				
00/64		7.0 9.8	B8+ B8III-IV	G-65	0.490	13/1.4	098-02	A	BB eclip Bin.	"	sl wk
00/73		"	"	"	"	13/1.5	"	B	"		
00/75		"	"	"	"	13/1.5	"	A	"		
00/54		10.0 11.7	A5e+ G	"	"	20/1.4	"	B	"		wk
							IIaO-E				
00/102	1-2	4.98	B3Ve	G12	.490	13/1.9	"	A	Bln Sp Bin		v sl str
00/81	1-2	3.75	G8III-II	"	"	9/1.5	"	B	Ly Sp Bin		fine
							098-02 in exposed Box #2			5m 019 68°	27 1.63
							IIaO-F in exposed Box #5			8m 019 68°	18 1.61

47

Date 1977 July 19/20 Tu/Wed Observers Bly-Ri

Emulsion Batches:
IIa-O-E 14017-18077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41769	HD191610 = 28 Cyg	20h 05m 43s	+36° 33'	20:38	21:00	03 35 E	+36° 54'	Fe Arc NL 1.10	12-12-12
41770	HDE 226868 (Cyg X1)	19h 54.6	+34° 56'	21:10	01:00	03 36W		Fe Arc UV Filter NL 1.10	8-8-8
41770f1	spot calc for plate	41769-70			15 min @ 15 volts		D4 3900	D3 4300	D2 4810
41770f2	step calc for plate	41769-70			90 sec				
41770f1	focus test	and not/in i						NO FILTER	5/5

Spectr. Temp. 80° Dome Temp./Hum. 79° 92% Transparency Conditions ... hazy ... 49

Focus ... 30B

Spectr. Temp. ... 76°F ... Dome Temp./Hum. ... 74° ... 99%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/10½	1"	4.82	B3Ia	G12	G12/0.49B	13/.9	IIa-0E	A	Sp. Bin-13/m		fine
00/23½	1'	9.74	09.7Iab	G16B	G16B/0.38D	18/.9	IIa-0E	B	Sp. Bin-13/m	Focus 30R | UV Filter	fine
							IIa-0-E				ok
							IIa-0E				
						9	IIa0-E	B			
				8m D19	69°E	.21	1.78				

49

Date .1977. July 20/21. Wed Tours Observers ..R.m.-T.n.....

Emulsion Batches: .IIaO-e..1.1.5.1.7.....-1.5.0.7.7.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41771	HD163506=89 Her	17h 51.4	+26° 4	20 55	21 34	00 42E	+26 08	Fe Arc NO 110	7-7
41771T	Spot Calibration for plate		41771-75.	15 min @ 15V		D4 3400	D3 4300	D2 4810	
41772	HD187726=TVul	20 47.2	+27° 53.5	21 55	23 16	01 57E	+28 14		7-7-7
41772T	Strip Calib for 41771-75.							90 sec	
41773	HD[illegible]	19h 40.8	+39° 01	23 25	01 54	01 48W	+29 17	Fe Arc NO 110	7-7
41774	HD206775=ε Pac	21h 39.3	+9 25	01h 59	02 08	00 02W	+9 52	"	7-14
41775	HD198726=TVul	20h 47.2	+27° 52	02 15	03 28	02 16W	+28 15	"	7-7
41775F	focus test	out set/in in						Hg filter	5-5

Spectr. T
Focus..
Spectr. T
Exp. Mtr

Spectr. Temp. ..82°F..... Dome Temp./Hum. ..84°F/78%... Transparency Conditions ..Hazy..... 50

Focus ...G16B -30R.....

Spectr. Temp. ..80°F..... Dome Temp./Hum. 77°F/90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/40	1"	5.82	F2Ia	G16B	G16B/.380	9/.5	IIaOE	A	Cepheid/Evans	UV Filter in	Fine
							IIaOE				
—/—	1"-3"	5.82-6.82	F5Ib-G5Ib	"	"	13/.5	IIaOE	B	Cepheid/Evans	no Exp meter UV Filter in	Fine
							IIaO-E				
	2-3"	6.8-7.7	F0-G1	"	"	"	IIaOE	A	Cepheid/Evans	UV in	v sl wk
	"	3.98	K2Ib	"	"	"	IIaOE	B	Std Vel	UV in "	v sl str
	2-3"	5.8-6.8	F5Ib G0Ib	"	"	"	IIaOE	A	Cepheid Evans	UV in "	v sl str
Focus changed to 20-B				G12	G12/.49B	13	IIaOE	B		cloud broken	where is it? It was there Tn
		8m	D19	68°F .20	1.81						
				Kad. PS.			IIaO - plates need to be cut & emulsified.				

Comparison / e Filter / Exp

51

Thurs

Date 1977 July 21/22 Fri Observers Giese-Tu

Emulsion Batches:
IIa0-e 14017 18077
098-02 20097 18077
IIa0-e* 14017 21077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp. Mtr
41776	HD 191610	20 5.7	+36 33	20 37	21 08	3 19 E	+36 52	Fe Arc ND 1.10	12-12
41776T1	Strip Calib for 41776, 78-79								
41776T2	Spot Calib for 41776, 78-79				15min @ 15V	D4 3900	D3 D2 4300 4810		
41777	HDE 226868 = Cyg X-1	19h 54.6	+34° 56'	22 02	02 40	2 25W	+35 14	Fe Arc No Filter	5-5-
41777T1	Spot Calib for 41777				15min @	15VD3 4810	7VD1 7VD2 Hα 3450		
41777T2	Strip Calib for 41777				90sec				
41778	HD 191610 = 23 Cyg	20h 05.7	+36° 33'	02 50	03 12	2 45W	+36 52	Fe Arc ND 1.10	12-12
41779	HD 222107 = λ And	23h 32.7	+46° 58'	03 23	03 45	0 09E	+46 24	Fe Arc ND 1.10	12-12
41780	HD 206778	21 39.3	+9 25	03 50	03 59	1 58W	+9 51	"	13-13-
41780F	Focus Test			in	out	out		no Filter	5/2

Spectr. Temp. 76°F ..... Dome Temp./Hum. 23°C./73% Transparency Conditions . V. good ... sl. haze. to Smoky

Focus .... 20-B .....

Spectr. Temp. 67°F ..... Dome Temp./Hum. 17°C./88%

Comparison Type Filter Ex	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	—	2-4	4.98	B3Ve	G12	G12/0.49B	13/9	IIaO-e	A	SB Bln	In IIaO-Box	sl uneven
						90sec		"			Exp meter repaired by Hr.	
								"				
	81[illegible]/162	3-4	9.74	O9.7Ia	G24 R	G24/0388	18/1.5	098-02	A	S-Bin. Bln.	In 098 Lox * Forgot to change Focus to 30R	exp de out of focus
								098-02		↑ wr-Ha4 filter	in "	
								098-02			"	
	200/110	3"	4.98	B3IIe	G12	G12/0.49B	13/9	IIaO-e	B	SB Bln	20B Focus set	
	[illegible]/80	3	3.75	G8	G12	G12/0.49B	9/1.5	IIaO-e	A	SB Ly		
	100/95	3-5'	3.98	K2Ib	"	"	9/1.5	IIaO-e*	B	Std Vel		
					"	"	9	IIaO-e*	A			blue shift
					IaO 8" D19 68°F			.18 1.61				
					098 5" D19 68°F			.17 1.60				

53

Date 1977 July 22/23 ✓ FRI/SAT Observers Ly-Tn

Emulsion Batches:
Tao:G ... 14017-21077
098:02 ... 20047-18077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41781	HD175426 (ε' Lyr)	18 50.2	+36 51	20:37	20:54	02 13 E	+37 03	Fe NE=1:10	13-17
41781 T1	Strip Caln for 41781-84,	89							90 sec
41781 T2	Spot Caln for 41781-84,	89			15 min @ 15 V	D4 3900	D3 4300	D2 4810	
41782	HD191610 (28 Cyg)	20 05.7	+36° 33'	20 59	21:18	03 05 E	+36 53	Fe NE 1:10	13-13
41783	HD131511	14 48.9	+19 33	21:25	22:41	03 34 W	+19 20	"	13-13
41784	HD175426 (ε' Lyr)	18 50.2	+36 51	22:44	23:04	00 03 E	+37 01	"	13-
41785	HD3679 (u Cep)	00 59.9	+81 45.1	23:21	23:47	05 29 E	+81 51	Fe Arc NE 1:10	8-8-
41785 T	Spot Caln for	41785-88.				7 min @ 15 V 4810	D4 (7 V D1 15 min Hg 5450)		D2
41786	HD3679 (u Cep)	00 59.9	+81 45.1	23:49	00:18	04 58 E	+81 51	Fe Arc NE 1:10	8-7
41787	"	"	"	00:24	00:55	04 21 E	"	"	8-8-9
41788	HD165151	19 33.6	+27 39	01:04	01:40	01 50 W	+27 56	"	8-8-
41788 T	Strip Caln for	41785-88.						90 sec	
41789	HD224085	23 49.9	+28 06	02:01	03:48	00 19 E	+28 36	Fe Arc NE 1:10	8-11-

Spectr. Temp. 70°F ..... Dome Temp./Hum. 20°C/67%. Transparency Conditions ..light cirrus - good.....
-> cloud by 03h

Focus ....10B ....-> 50R -> 10B at end

Spectr. Temp. 66°F ..... Dome Temp./Hum. 18°/80%.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
R00/55	2-3"	5.2	B3	G12	G12/.49B	13/.5	IIaO-e	A	SB - Ly		fine
							"				
							"				
600/101		.198	B3ve	G12	G12/.49B	3/9	"	B	SB - Bln		fine
400/177	3"	6.8	KOV	G12	"	13/.5	"	A	ASM - KK		
400/56	3"	5.2	B3	"	"	"	"	B	SB - Ly		fine
400/38	3"-5	~7	B	G65	G65/.49B	"	098-02	A	EB - BB	Written 4 filter in	fine
							098-02				
400/38	4"-5	~7	B	G65	G65/.49B	13/.5	"	B	EB - BB	possible light leak cover flapped - Ly written 4 filter in	sl. fogged
400/37	"	"	"	"	"	"	"	A	EB - BB	written 4 filter in	fine
500/50	4"	8.54	KO	"	"	18/.4	"	B	H+K Bm - Ly	1st arc before slit closed wrong Filter ~.5 UV in	fine
							"				
400/130	3"	8.3	KO	G8 G16 B	G16/.38B	B/.4	IIaO-e	A	H+K Bm - Ly	UV filtering 50R Focus hazy - affects 100 cts	wrong grating!!
IIaO 8m	019	68°F		.20 1.60							
098 4½m	"	"		.19 1.82							

* KK - more IIaO; may be need a better Monday
These are [illegible] strong 3(4,5)

55 2 Tours 3 hrs

Date 1977 July 23/24 Sat-Sun Observers Fqi-Tn

Emulsion Batches:
II-0-e 19017 - 21077
098-02e 20047 - 23077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41790	HD 190918	20h 02.2	+35° 31	23:31	01:50	0h 35W	+35° 47	Fe-arc nd 1.10	13 13-13
41790T1	Spot Cals for	41790, 92.			15 min @ 15V	D4 3900	D3 4300	D2 4810	
41790T2	Strip Cals for	41790, 92.			90sec				
41791	HD 210334	22h 04.6	+45° 15	02:03	03:19	01h 06 W	+45 43	Fe-arc NO Filter	6-7 6
41791T1	Spot Cals for	41791		15 min @	15V D3 4810	7V D1 H2	7V D2 5450		
41791T2	Strip Cals for	41791		90sec					
41792	HD 191610 (Strip)	20h 05	+36° 33	03:28	04 04	3 46W	+36° 52	Fe Arc ND 1.10	13 13-13-

Spectr. Temp. 72°F ..... Dome Temp./Hum. 66°F / 89% Transparency Conditions OK - s/hazy - cloudy...

Focus .. 10-B .....

Spectr. Temp. 66°F ..... Dome Temp./Hum. 63°F / 91.7%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/240	2"-3"	7	WW4.5 +OBIa	G12	G12 / 0.498	13/1.5	IIaOe	A	Fgi LUK	cloud	fine
							"				
							"				
400/100	2"-3"	7.3	65	G16R	G16 / .7	13/1.5	098-02E	B	RS CVn	AR Lac	sl wk
							"				
							"				
200/97	3"	4.8	BSTe	G12	G12 / 0.498	13/.9	IIaOe	A	Blu Sp Bin		fine
		IIaO	8m	DIG	68°F	.19 1.77					
		098	5m	DIG	68°F	.18 1.76					

57

Date 1977 July 25-26 Mon. Tues Observers B.A.-T.M. some KK

Emulsion Batches: D.a.-E. 14017-21077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41792F	Taurus							Fe, no	10,10
41793	α Boo HD124897	14 11.1	+19 42	20 19	20 22	0204 W		Fe, no filter	5-5
41794	HD138406	15 26.8	+62 05	20 44	22 15	0244 W	+61 51	Fe Arc ND 1.40	14-M-14
41794T	Spot Cals. for 41794-98			15 min	@15V	D4 3900	D3 4300 D2 4810		
41795	HD179164	18 18.3	+14 57	22 23	00 50	0226 W	+15 06	Fe Arc ND 1.10	13-13-13
41796	HD 208835	21 53.9	+46 23	01 03	02 55	0056 W	+46 50	"	13-M-13
41797	HD 222207	23 33.5	+41 57	02 59	04 03	0024 W	+42 26	"	14-M-14
41797T	Extra Spot Cals for 41794-98			15 min	@15V	D4 3900	D3 4300 D2 4810		
41798	HD 191610 (2 Cyg)	20 05.7	+36 33	04 06	04 23	0412 W	+36 50	Fe Arc ND 1.10	13-13-13

Spectr. Temp. 72°F ..... Dome Temp./Hum. 20°C / 72% Transparency Conditions Excellent .....

Focus ... 10-B ... -10-R ...

Spectr. Temp. 60°F ..... Dome Temp./Hum. 14°C / 92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				G24	G12/24 .490 B	13	HIE	A			sl ↑ blue
20/50	5"	1.29	K2 III	G24	"	13/1.5	"	A	Test	Wr 4 filter	comp wk + str
00/122	3-4"	6.79	A0	G12	G12 .49 B	9/1.5	II a0 e	A	Am MR		fair
							II a0 E		Am MR		
00/120	3-4	7.40	A2	G12	G12 .49 B	13/1.5	II a0 E	B	Ap MR		fine
00/119	3"	7.39	A0	G12	"	13/1.5	II a0 E	A	Ap MR		fine
00/120	3-4	6.77	B9	G12	"	9/1.5	"	B	Ap MR		fair
00/ 80	3-4	4.98	B3 Ve	G12	G12 .49 B	13/1.9	II a0 E	A	Sp Bin Bln	Some Sky	v sl str
				HIE 8m							
				II a0 8m	Dig 68°F		.18 1.66 ; 19 180				

59

Date 1971 JULY 26/27 TUES/WED Observers B.W.-T.

Emulsion Batches: II-O-e 14017 - 25077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41799	HD 156547	17 13.1	+26 00	20 35	21 38	00 22 W	+26 02	Fe Arc ND 1.10	13-13-13
41799T	Spot Calib for	41799-	41803	15 min @	15V	D4 3900	D3 4300	D2 4810	
41800	HD 168481	18 14.8	+15 47	21 42	23 16	00 59 W	+15 57	Fe Arc ND 1.10	13-13-13
41801	HD 176003	18 53.0	+44 05	23 19	00 22	01 29 W	+44 18	"	13-13-13
41802	HD 201032	21 02.0	+62 59	00 28	02 13	01 11 W	+63 23	"	13-13-13
41803	HD 217695	22 57.4	+47 24	02 17	04 07	01 09 W	+47 57	"	13-13-
41803T	Strip Calib for 41799-41803					90 sec			

Spectr. Temp. 63°F Dome Temp./Hum. 62°F / 72% Transparency Conditions V. Good - sl haze 60

Focus 10-R

Spectr. Temp. ..... Dome Temp./Hum. 55°F / 92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/130	2-3"	7.04	A1	G12	12/0.49B	13/1.5	IIa-0-e	A	Am MR		fine
							IIa-0-e				
400/140	2-3	7.08	F0	G12	12/0.49B	13/1.5	IIa-0-e	B	Ap MR		fine
400/130	2-4	7.00	A1	G12	12/0.49B	13/1.5	IIa-0-e	A	Am MR		fine, good dbl lines
400/140	2-3"	7.4	A5	G12	12/0.49B	13/1.5	IIa-0-e	B	Am MR		fine
400/	"	7.5	A0	G12	12/0.49B	13/1.5	IIa-0-e	A	Ap MR		fine
							IIa-0-e				
				8m D19 68°F		.20	1.74				
				new developing rack							

G1

Date 1977 July 27/28 Wed/Thurs Observers Rm-Tm

Emulsion Batches:
IIaO-e 14017-25077
098-02 20047-23077

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41804	HD186688=SUCyg	19h40.8	+29° 01	20:38	21 33	02 05 E	+29 12	Fe arc No ND 1.10	7-7-7
41804T	Spot Coln for	41804-5.	15 min	@ 15V		D4 3900	D3 4300	D2 4810	
41805	HD163506=89 Her	17 51.4	+26 04	21 45	22:07	00 17W	+26° 046	Fe Arc No ND	7-8-7
41805T	Strip Coln for	41804-5				90sec ??			
41806	HD187921=SV Vul	19 47.4	+27 12	22 36	23 55	00 10W	+27 25	Fe Arc No ND	4-4-4
41806T1	Spot Coln for	41806-7		15 min	15V @ 4810	D3 7V D1 Hα	D2 5450		
41806T2	Strip Coln for	41806-7		90sec					
41807	HD172359=TT Aql	19h03.2	+01° 08	00:03	02 07	0306W	+1 16	Fe Arc No ND	5-4-4
41807F	Focus Test	for G16R						no Filter	8/8

Spectr. Temp. 68°F ..... Dome Temp./Hum. 65°F / 63% Transparency Conditions ... So So ... thin haze → cloud

Focus .. 50R → 0 for normal

Spectr. Temp. 63°F ..... Dome Temp./Hum. 60? / 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60/100	1"	6.8-7.7	F0-G1	G16B	16/0.3813	13/1.5	IIaO E	A	Cepheid/Evans	UV filter Focus 50R	fine
100/50	1½"	5.82	F2Ia	G16B	16/0.3813	13/1.5	IIaOE	B	Cepheid/Evans	UV filter 50R	fine
							IIaO-E				
30/82	1"	≈9	≈G8	G16R	16/0.7B	13/1.5	098-02	B	Ceph/Evans	Focus 0	fine
							098-02				
							098-02				
00/50	2-3"	7-9	F8-K0	G16R	16/0.7B	13/1.5	098-02	A	Cepheid/EVANS	haze → cloud	fine
1m in	1 out	out	Temp	63°F				B	Set at 0	Thick	defect in emulsion - useless
				IIaO	8m	D19	68°F	20	172		
		new hyp		098	5m	"	"	.31	1.92		

63

Thurs Fri

Date . July 28/29, 1977. Observers . Ges., Tn. .....

Emulsion Batches:
..Ha-e...14017-25077
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41808	ND 191618 = 2EGq	20h 05m	+36° 33'	22:32	23 23	0 36 E	+36 45	Fe Arc NO. L 0	13-13-13
41808T1	Spot Calib for 41808			15min	@15V	D4 3900 D3 4300	D2 4810		
41808T2	Strip Calib for 41808				90sec				

Spectr. T
Focus ..
Spectr.
Exp. Mtr
200/7

64

Spectr. Temp. ..67°F..... Dome Temp./Hum. 63°F/82% Transparency Conditions ..Cloudy..but Bln says it's clear

Focus ....0.....

Spectr. Temp. ..... Dome Temp./Hum. 65°F/88%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20'/73	2-3"	4.98	B3Fe	G-12	G12/498	13/9	IIaOe	A	Sp. Bin. Blk		fine
							"			#1 wk	
							"				
			8m	D19	68°F	20	175				

65

Date July 30-31 Sat Sun 1977 Observers B.K.-T.

Emulsion Batches:
IIa0-e 14017-25077
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41809	HD136202	15 14·2	+2 09	20 26	21 03	02 01 W	+	Fe Arc ND 1.0	13-15+
41809T	Spot Cals for	41509 -12			15m @ 15V	D4 3900	D3 4300	D2 4810	
41810	HD165590	18 01·6	+21 26	21 14	00 18	02 30 W	+21 28	Fe Arc ND 1.0	13-13-1
41811	HD 203504	21 17·5	+19 32	0 22	00 46	0 17 E	+19 43	"	13-15-1
41812	HD 209166	21 56·2	+12 38	00 53	01 30	0 12 E	+13 00		13-13-1

Spectr. T
Focus
Spectr. T
Exp. Mtr.
200/
150
95
40

Spectr. Temp. ..71°F..... Dome Temp./Hum. 69°F/...91%... Transparency Conditions . Slt. haze ... cloudy....

Focus .....O-R.....

Spectr. Temp. ..65°..... Dome Temp./Hum. 63°/...100%...

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/80	1-2-3	5.6	F8 IV	G12	12/0498	131.5	IIaO-e	A	Waterloo	broken lpc	red end saved fair
[illegible]		7.8	F2	G12			"		"		
400/150	2-4"	7.8	G1 V	G12	12/.498	131.5	"	B	Wat Prog	cloud	
" 95	2"	5.2	G1 V	"	"	131.5	"	A	"	"	fine
200/40	3"	5.9	F1 IV	"	"	131.5	"	B	"	" cleaned out	fair
				IIaO 8mm		20 164					

67

Sun - Mon

Date July 31 - Aug 1, 1977 Observers Gies, Tn

Emulsion Batches:
II-O-e 14017-30077
098-02 20117-49721

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Ex	Exp Mtr
41813	HD 191610 = 28 Cyg	20h05m	+36° 32'	20 47	21 41	0205E	+3648	Fe Arc ND 1.10	13-13½	90
41813T1	Spot Calib for 41813			15 min @ 15V		D4 3900	D3 4300	D2 7810		
41813T2	Strip Calib for 41813			90sec						
41814	HM Sge	19 37.5	+16 31	23 09	0 01	0 41W	+1650	Fe Arc None	5-5½	1
41814T1	Spot Calib for 41814			15min	15V D3 4810	8V D1 Hα	8V D2 5450			
41814T2	Strip Calib for 41814			60sec						
41814F	Focus Test for G12							1	16-16	no

Spectr. Temp. 72°F ..... Dome Temp./Hum. 72°F / 95% Transparency Conditions ..Hazy - cloudy..... 68

Focus ..10B ⟶ 50R - 10B

Spectr. Temp. 72°F ..... Dome Temp./Hum. 70°F / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
90	1"	4.98	B3Te	G12	G12/498	13.9	IIaO-e	A	SpBin Bln.	cloud coming	fair
							IIaO-e				
							IIaO-e				
8 ?	1-1	≈11	Em	G24R	G24/138B	K1.5	098-02		Bln *	Focus 50R, Wrt +4	useless
							098-02			* getting foggy	
							098-02			Cloud too	
no filter		(wrt +4 in)		G12	70°F	13	IIaO		* KK - These should be		
									pushed - check with Bln.		
		IIaO	7'L	69°F	19	176			P.S. These 2 098 strips at		
		098	7'L	69°F	40	238			Far Right of Exp Box		
									Labelled July 31 - Aug 1.		
									098 4x5 is at Far back of Box.		

GA

Many good meteors

Emulsion Batches: IIaO-E 14017 - 30077

1977
Date Aug. 1-2. Mo-Tues Observers But-Tn

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Spectr. T / Focus / Spectr. / Exp. Mtr
41815	HD 157702	17 19.7	+18 56	20 31	23 37	2 39W	+19 00	FE ARC ND 1.1	13-12-1	1/140
41815T	Spot Calib for 41815		-17.		15 min @ 15V	D4 3900	D3 4300	D2 5450		← do
					(Reversal Posns on plate)	→				
41816	HD 190165	19 58.6	+45 11	23 41	01 59	02 22W	+43 34	FE ARC ND 1.10	13-13-1	1/140
41817	HD 217695	22 57.4	+47 24	02 02	04 08	01 32W	+47 57	"	13-13-1	1/140

Spectr. Temp. ...72°F..... Dome Temp./Hum. 20°C / 78% Transparency Conditions .Very Good..... 70

Focus ...10-B.....

Spectr. Temp. .63°F..... Dome Temp./Hum. 16C / 86%

*Used Sat night's Exp Box marked UaO-e

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3/140	3-5"	7.48	A0	G12	12 .490B	131.5	IIaOe	A	Am MR		fair
← do you really mean 5450?									in back of Exp Box		
0/140	3"	7.58	A2	G12	12 .49B	131.5	IIaOe	B	Am MR		fair
00/140	2-3"	7.50	A0	G12	"	"	"	A	Ap MR		
	all weekend plates			7½" Dig 69°F		20 226					

71 Aug 3 Tube on in Vac 11 h 05 s 21 m 15 s
9 09 8 s 1 4 s Tn

Date 7/8 August '77 Observers Bln-Gve
Sun/Mon

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
								Fe Arc	
~~41818~~	~~HD191610 = 28 Vg~~	~~20h 05.7~~	~~+36° 33'~~	~~2h 31~~			~~+37° 02'~~	ND 1.10	~~5~~

Spectr. T
Focus
Spectr.
Exp. Mtr

Spectr. Temp. 72° F ..... Dome Temp./Hum. 70°F / 89% Transparency Conditions 72

Focus ... 10-B .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
~~2-0/~~	~~2-3~~	~~4 02~~	~~B3To~~	~~G12~~	~~0.4 OB~~	13/9	~~Tr-F~~	~~A~~	~~F B Bl2~~	terminated by clouds!!	

73

Date Aug. 8/9, 1977 Observers Bn-Gies

Emulsion Batches: IIaO-E 14017 - 20077 ? 30077
098-02 20047 - 24887

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41818	HDE 226868 = Cyg X1	19h 54.6	+34° 56'	22:55	04:27	05 22 W	+35° 19'	ND.1.10 Fe Arc	7-7 -7
41818 T1	Spot Calibration for	41818		15 min @ 15 v.	D3 3900	D2 4300	D1 4810		
41818 T2	Strip " "	"		90 sec.					

Spectr. Temp. ...72°F..... Dome Temp./Hum. 70°F/85% Transparency Conditions . Excellent - well!!? 74
not as good as we thought

Focus .10B (50R ... for .. G16B)

Spectr. Temp. ..65°F..... Dome Temp./Hum. 60°F/80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/150	2-3"	9.74.	09.71	G166	G166 .38B	18/5	IIaO-e	A	Sp.Bin Bkn.	UV Filter- PUSH	v sl wk + Nebulous!
							IIaO-e				wk
							IIaO-e				
				10m D17	68°F	22	80				

75

Date ...Aug 11/12, 1977.. Observers ...Gies-Tn.....

Emulsion Batches:
..098-02E..20047-04087
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41819	HDE 226868=Cyg X1	19h 54.6m	+34° 56'	01:39	04·26	5 33W	+35 16	Fe Arc none	5-5-5
41819T1	Spot Calib for	41819			15min @	14V D3 4810	6V D1 Hα	6V D2 5450	
41819T2	Strip Calib for	41819			70 sec				
41819F	Focus Test							Fe Arc None	8-8

Spectr.
Focus
Spectr.
Exp Min
8/10/77

Spectr. Temp. 67°F ..... Dome Temp./Hum. 62°F/92% Transparency Conditions . Excellent by 2h 76

Focus ... 50R .....

Spectr. Temp. 63°F ..... Dome Temp./Hum. ...../100% good meteor shower

max of Perseids at 06 4m

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300/77	3"-6"	9.74	09.75-6	G24R	G16R/1.58B	18/35	098-02E	A	Sp Bin Bln	Wrt #4 Filter * KK push if you can.	sl wk
							098-02E				
							098-02E				
	in/out			G24R	G6R/1.58B	18	098-02E	B	63°F	Wrt #4 center to red	✓
				3 1/2m	Dig 68°F		32 148				

77

Date Aug. 12/13, 1977 Observers Gies, Tn

Emulsion Batches:
098-02 20047-04077
IIaO-E 14017-30377

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
41820	wrong star HD 193369 HD 191610 = 2 Cyg	20h 05m 43s	+36° 33'	20:00	20:20	2h 50m E	+37° 01.0	Fe NO 1.10	13-13-4
41821	HDE 226868 = Cyg X-1	19h 54.6m	+34° 56'	20:34	01:26	2h 33m W	+35° 15.6'	Fe NO 1.0	6-6-6
41821 T1	Spot Calib for	41820-21.			15 min @	14V	D4 3900 D3 4300	D2 4810	
41821 T2	Strip Calib for	41820-21.			90 sec				
41822	HDE 226868 = Cyg X-1	19h 54.6m	+34° 56'	01:29	04 22	05 33 W	+35 16	Fe none	4-4-4
41822 T1	Spot Calib for	41822			15 min @	14V D3 4810	6V D1 Hα	6V D2 5450	
41822 T2	Strip Calib for	41822			70 sec				

Spectr. Temp. 67°F ..... Dome Temp./Hum. 66°F / 72% ..... Transparency Conditions Excellent 78

Focus 0 → +50R .....

Spectr. Temp. 63°F ..... Dome Temp./Hum. 59°F / 100% .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/86	1-2"	4.98	B3Ic	G12	G12/498	13/9	IIaO-e	A	Sp. Bin. Bln.	Focus 0	fine
600/240	1-2"	9.74	O9.7Iab	G16B	G16B/.38B	18/4	IaO-e	B	Sp. Bin Bln.	Focus +50R (UV in)	Fine
							IIaO-e				
							IIaO-e				
600/114	2"-3"	9.74	O9.7Iab	G24	G16B/38B	18/3	098-02	A	SpBn Bln.	(UVout) wrt #4in *	orp fine, bckgr#
							098-07			cloud by dawn *	
							098-02			*	
									KK	* should be pushed	
				098 5m	Dig 68°F	33	120			like last night's?	
				IIaO 8m		17	156		(098-in	Box # 1)	

79 2 Large Tours 2.5 hrs

Date Aug 13/14 1977 Sat. Sun Observers ..B/n..-..T.n.....

Emulsion Batches:
...IIa.O-e.1401.7.-12087
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41823	HD 191610	20 05.7	+36 33	22 49	2308	00 11 W	+3647	Fe NO 1.10	1313-13
							D4 D3	D2	
41823Ty	Spot Cal. for 41823				15 min @	15 V	3900 4300	4810	

Spectr. T
Focus..
Spectr. T

Exp Mir

300/10

Spectr. Temp. 72°F ..... Dome Temp./Hum. 69°F / 93% Transparency Conditions . Hazy - Cloudy 80

Focus ... 10-B .....

Spectr. Temp. ..... Dome Temp./Hum. 68°F / 97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/90	1.2"	4.98	B3Ve	G12	G12 / 1.498	13/19	IIaO-e	A	S B B/h		
							"				
				8" D19	68°F	17	168				

81

Sun / Mon

Date Aug. 14/15, 1977 Observers Ges - Tn

Emulsion Batches:
IIa0-E 14017 - 12087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41824	HD191610 = 28 Cyg	20h 05.7m	+36° 33	20:03	20:40	2h 14m E	+36 53	Fe ND 1.0	17-12-8
41824T	Spot Calib for	41824 - 26.			30 min @	15v D8 3900	D2 4300	D1 4810	
41824F	Focus Test			10 in / 10 out				Fe Arc None	3-3
41825	HDE226868 = Cyg X-1	19h 54.6m	+34° 56'	20:55	03:24	4h 42m W	+35 17	Fe ND	6-6-6
						~~Telescope~~	oscillator,	Lead Exp	
41826	HD191610 = 28 Cyg	20h 05.7m	+36° 33	03:35	04:25	5 32W	+36 56	Fe ND 1.0	17-12-8
41826T	Strip calibration for	41824 - 26,			90 sec.				
41826F	Forks				Temp	59 °F		Fe None	

Spectr. T
Focus
Spectr. T
Exp. Mtr.

Spectr. Temp. 67° F ..... Dome Temp./Hum. 63°F/70% .. Transparency Conditions .. very good 82

Focus ... 5.B - .55R - .15R ..

Spectr. Temp. 59°F ..... Dome Temp./Hum. 56°F/90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
0/78 ?	5-6	4.9+	B3IIe	G12	G12/.49	13/.8+	IIaO-e	B	Sp Bin Bln		sl. str Tilt off
							IIaO-e				sl wk
				G16B	G16B/.38	18	IIaO-e	A	Developed	and rootstat (discarded)	Fair+ Obj
0/83 ?	3-6	9.7+	O9.7Ia	G16B	G16B/.38	18/.4 short .4	IIaO-e	B	Sp Bin Bln	Exp Meter bad (Measuring 2?)	fine
0/80 ?	5	4.98	B3IIe	G12	G12/.49	13/.9	IIaO-e	B	Sp Bin Bln.		fine
							IIaO-e				
2nd m/out out				G12	G12/.49	13	IIaO	A	Set at 15R		
								*	KK (yyx1) Exp is questionable due to		
				8m Dig 68°F	18,108				prob faulty Exp meter. Nice to HR check		
									meter you might have better idea of		
									how much too Dark.		
									Exp should be OK I think. Stars Long enough!		
							All		Plates in Box # 4		

83

Wed, Thurs.

Date Aug 17/18, 1977 Observers Gies, Tn

Emulsion Batches: 2
IIaO-E 10047-15087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Ex
41827	HDE 226868 = Cyg X-1	19h 54.6m	+34° 56'	20:39	03 20	4 49 W	+35 17	Fe Arc IVO HO	6-6
41827T1	Spot Calib for 41827-28				30 min @ 15V 3900	D3	D2 4300	D1 4510	
41827T2	Strip Calib for 41827-28				70 sec				
41828	HD 191610	20 05.7	+36 33	3:34	04 27	5 46 W	+36 57	Fe Arc NO HO	13-13
41825F	G12 Focus Test							Fe Arc IVO-E	4-4

Spectr. Temp. 65°F ..... Dome Temp./Hum. 17°C/96% Transparency Conditions . Excellent 84

Focus ...70R ... 26R .....

Spectr. Temp. 55°F ..... Dome Temp./Hum. 10°C / 96%

very gusty

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/84 ?	2"-4"	7.74	09.7 Tab	G16B	G16B/.388	18/.4	IIaO-e	A	Sp. Bin Eln	UV Filter in Exp 11 = Too slow again ??	fine
							IIaO-e				
							IIaO-e				
200/75	3"-5"	4.98	B3 Ve	G12	G12/.498	13/.9	IIaO-e	B	S E Bla	UV out Telescope Oscillating in wind	Strong
in in / out out				Set 25 R	G12/.498	13	IIaO	A		Cloud Too	Note exp in center
										KK, You should prob push the marks	
			8m Dig 68°F = normal dev.				20 132			Exp meter still shaking pneumatic	
										I think. Make Sure Hr finds problem.	
										Jim T	

85

Thurs / Fri

Date Aug. 18/19., 1977. Observers Gies, Fn

Emulsion Batches:
IIaO 10027 - 15087
09802 20047 - 04087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41829	HD 191610 = 28 Cyg	20h 05.7m	+36° 33′	19:55	20:25	2 13 E	+36° 56	Fe arc ND 1.10	13½-+
41830	HDE 226868 Cyg X-1	19 54.6	+34 56	20:35	00 48	2 22 W	+35 18	Fe Arc ND 1.10	6-6-6
41830T1	Spot Calib for 41829-30				40 min @ 15V	D3 3900	D2 4300 D1 4810		
41830T2	Strip Calib for 41829-30				90 sec				
41831	HDE 226868 Cyg X-1	19 54.6	+34 56	00:54	4:11	5 45 W		Fe arc	5-5
41831T1	Spot Calib for 41831-32				15 min @	15V D3 4810	7V D1 H2 5450 7V D2		
41832	HD 217675 = o And	22h 57.3m	+41° 47′	4:20	4:41	3 11 W	+42 23		7-7
41831T2	Strip Calib for 41831-32				60 sec				

Spectr. Temp. 60°F ..... Dome Temp./Hum. 59°F / 73% Transparency Conditions thin cirrus, but ok .....

Focus .. 15R → +75R .....

Spectr. Temp. 53°F ..... Dome Temp./Hum. 49°F / 85% .....

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	70/75	2"-5"	4.98	B2 IIe	G12	G12/.49B	13/9	IIaO-e	A	Sp Bin. Bln		sl str
	100/80?	2"-3"-2"	9.74	097 I-b	G16B	G16/.38B	18/4	IIaO-e	B	Sp Bin - Bln	Exp still slow, maybe UV Filter - Focus +75R	fine
								IIaO-e				
								IIaO-e				
	0/72?	2"	9.74	097 I-b	G24R	G24/.38B	18/4	098-02	A	SB Bln ≈ 7 min	Exp meter seems OK? From beginning of Exp. interrupted due to jammed guiding motor paddle	fine
	70/31	1-2"	3.63	B6p	G24R	G24/.38B	9/9	098-02	B	Shell star Bln		v sl str.
								098-02				
				IIaO	8m D19 68°	20 158				KK. All	Stuff to DT bin	
				098	4m " "	38 193				Exp meter	uncertain.	

87

Fri / Sat

Date Aug. 19/20, 1977 Observers Gies - Tn

Emulsion Batches:
IIaOe ... 10021 - 15087 ...
098-02 20047 - 21087 ...
...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41833	HDE 226868 = Cyg X-1	19h 54.6m	+34° 56'	20:05	22 02	0 21 W	+35 18	Fe arc ND 1.10	6-6-6
41833 T1	Spot Calib for 41833-34, 36-38,			15 V @		15min D3 3900	30min D2 4300	30min D1 4810	
41833 T2	Strip Calib for 41833-34, 36-38.				60 sec				
41834	HD 190918	20h 02.2	+35° 31	22:49	0:33	2 03 W	+35 53	Fe arc ND 1.10	10-5-5
41835	HDE 226868 = Cyg X-1	19h 54.6m	+34° 56'	0:39	3:42	5 20 W	+35 18	Fe arc ND 1.10	5-5-5
41835 T1	Spot Calib for 41835			15 min @		15V D3 4810	7V D1 Hα	7V D2 5450	
41835 T2	Strip Calib for 41835			90 sec					
41836	HD 191610 = 28 Cyg	20 5.7	+36 33	3 49	4 07	5 34 W	+36 53	Fe arc ND 1.0	12-12-12
41837	HD 4502 = ζ And	0 42.0	+23 43	4 13	4 27	1 17 W	+24 10	"	12-12-12
41838	HD 222107 = λ And	23 32.7	+45 55	4 30	4 45	2 49 W	+	"	13
41838 F	G12 Focus Test							Fe ND 1.0	4-4

Spectr. Temp. 61°F ..... Dome Temp./Hum. 56°F / 92% Transparency Conditions . Occas. cond. Fast. Cumul/us... very gusty

Focus . 85R . – . 40R .....

Spectr. Temp. 50°F ..... Dome Temp./Hum. 46°F / 99% ..

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
900/44 ?	2"-4"	9.74	O9.7Iab	G16B	G16B/.38	18/.35	IIaO-e	A	Sp Bin Blu	UV Filt in - some clouds / much cloud	ok exp very narrow
							IIaO-e			Cut short / Should push	
							IIaO-e			then clear	
440/145 ?	3-6"	7	WN4.5 +OBIa	G16B	G16B/.38	18/1.5	IIaO-e	A	Fgi WR	UV Filt in	1 str
600/114	2"-4"	9.74	O9.7Iab	G24R	G16B/.38B	18/1.4	098-02	B	Sp Bin Blu	(Exp meter seems normal / UV out, Wratten 11 now!	v sl wk
							098-02				
							098-02				
2400/75	3-4"	4.98	B3Ve	G12	G12/.498	13/.9	IIaO-e	A	Sp Bin Lg	Focus 40-R	fine
200/80		4.06	K2 III	G12	G12/.498	9/1.5	IIaO-e	B	Sp Bin Lg.		v sl wk
200/80		3.75	G8II-III	G12	G12/.498	9/1.5	IIaO-e	A	Sp Bin Lg.		fine
4 4 5 5 out				G12	11	9	11	B			
				IIaO	5m		19 128				
				098	4m		16 166				

89 2 Large Tours = 2.5 hrs
Sat-Sun

Date Aug. 20/21/1977 Observers ..Sho.-Tn.....

Emulsion Batches:
..IIa-O.....10027-15087
.127-05.....00095-19077
.098-02.....20047-04087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41839	HD 191610	20 05.7	+36 33	22 56	23 21	0 51 W	+	Fe Arc ND 1.0	13-13-13
41839T	Strip Calib for 41839					90sec			
41840	HD 212697	22 16.7	+27 50	23 31	01 05	0 24 W	+2822	Fe Arc None	8-8-8
41840T1	Spot Calib for 41840				15 min @	D4 7.5V 5100	D2 Hα	D3 6450	
41840T2	Strip Calib for 41840				7 min				
41841	HDE 226868	19 54.6	+34 56	01 14	3 37	5 20 W	+35 17	Fe Arc none	5-5-5
41841T1	Spot Calib for 41841				15 min @	15V D3 4810	7V D1 Hα	7V D2 5450	
41841T2	Strip Calib for 41841				90sec				

Spectr. Temp. ..59°F..... Dome Temp./Hum. ..57°F../.90% Transparency Conditions .....Clouds - Clear by 01 90

Focus .....3.5-R - 75R.

Spectr. Temp. ..56°F..... Dome Temp./Hum. 54°F../..95%

* Put in with last night IIaOs

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/105	2"	498	B3Ve	G12	G12/0.49B	13/19	IIaO-	A	5B Bln	*	fine
							IIaO-	no	4x5 available for Spot Cal *		
200/505	1-2"	483	B8V	G16R	G16/0.7B	13/15	127-05E	B	Algol Std	UV Alt in - Cloud	fine
							1270-5E				
							1270-5E				
800/160	1-3"	9.74	09.7Ib	G24R	G24/.38B	18/14	098-02	A	5R Bln	uv out - Wht #9 in	exp fine
							098-02			Focus 75-R	
							098-02			Cloud	
				127 5m					33 293		
				IIaO 8m (w/ previous night's plates)					Dlg 68°		
				098 4m					18 165		

9(

MON-TUES

Date Aug. 22/23/1977 Observers Fgi.-Tx.....

Emulsion Batches:
..Tech 10027-20087
..098-02 20047-19087
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41842	HD 191610	20h 05.7	+36° 33	19 48	20 01	2 21 E	+36 48	Fe-Arc ND	13-13-13
41842T	Spot Calib for 41842				15 min @15V	D4 3900	D3 4300	D2 4810	
41843	HD 190918	20h 02,2	+35° 31	20 11	21 41	0 36E	+35° 46	Fe Arc ND	13-13-13
41843T	Strip Calib for 41842-44.				90sec				
41844	HD 210334	22h 04.6	+45° 15	21 51	23 01	01 18E	+45° 40	Fe Arc UV ND	7-7-12
41845	HD 210334	22h 04,6	+45° 15	23 09	0 20	0 0	+45° 40	Fe Arc no filter	4-4-4
41845T	Spot Calib for 41845				15 min @	14V D3 4810	6V D1 Hα	6V D2 5450	
41845T2	Strip Calib for 41845				80sec				

Spectr. Temp. ...63°F..... Dome Temp./Hum. 64°F/68% Transparency Conditions . Good - s/haze ....92.

Focus .....10-R.....

Spectr. Temp. ..... Dome Temp./Hum. 60°F/92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/106	2-3"	4.98	E3Ie	G12	G12/0.49B	13/1.9	IIaO-e	A	Blu Sy Bm		vsl str
							IIaO-e				
100/301	1"	7.1	AN4.5+ 09.5Ia	G12	"	13/1.5	"	B	WR Fyi		fine V
							IIaO-e				
100/151	2"	7.3	G5	G16B	G16B/0.38	13/1.5	IIaO-e	A	RS CVn	AR Lac	fine
100/73	2-4"	7.3	G5	G16R	G16R/0.7	13/1.5	098-02	B	RS CVn	AR Lac cloud	sl wk uneven
							098-02				
			098	4"	D19	20 150					
			IIaO	8"	68°F	20 200					

93 Wed-Thurs

Date Aug. 24/25 1977 Observers Fgi-Ri

Emulsion Batches:
IIaO-E 10017-20087
098-02 20047-19087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41846	HD 191610	$20^h 05.7$	$+36° 33$	20 04	20 18	1^h 53 E	$+36° 53$	Fe Arc ND=1.1	13-13-13
41847	HD 190918	$20^h 02.2$	$+35° 31$	20 22	22 10	0^h 00 E	$+35° 52$	Fe Arc ND=1.1	13-13-13
41847T1	Spot Cals for plate 41846		-49			15 min @ 15 volt		D4 3900 D3 4300 D2 4810	
41847T2	cal step wedge for plate 41846		-49			90 sec			
41848	HD 186688 (SUCyg)	$19^h 40.9$	$+29° 01.4$	22 21	23 50	2^h 01 W	$+29° 20$	Fe Arc ND=1.0 UV Filter	7-7-7
41849	HD 219113	$23^h 08.3$	$+02° 08$	23 56	01 39	0^h 23 W	$+02° 40$	Fe Arc ND=1.1 UV Filter	7-7-7
41850	"	"	"	01:44	02 49	1^h 33 W	"	Fe Arc ND=1.1 UV Filter	4-4-4
41850T1	spot cals for plate 41850		-52		15 min	D3 1.0 U 4810	D1.0 U Hd	D2 2.0 U 5450	
41850T2	cal step wedge for plate 41850		-52		90 sec				
41851	HD 22468	$03^h 31.6$	$+00° 16'$	02 56	03 37	2^h 02 E	$+00° 39$	Fe Arc ND=1.1 UV Filter	4-4-4
41852	HD 21242 (UX Ari)	$03^h 20.5$	$+28° 22$	03 42	04 33	00^h 53 E	$+28° 45$	Fe Arc NO FILTER	4-4-4

Spectr. Temp. 60°F ..... Dome Temp./Hum. 70°F/70% Transparency Conditions ..... EXCELLENT 94

Focus .. 20 R .....

Spectr. Temp. ..... 54°F ..... Dome Temp./Hum. 52°F/92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/101		4.98	B3Ie	G12	G12/0.49	13/1.9	IIaO-e	A	Sf B in B/n		v sl str
100/300	3-4	7.1	WN4.5 +09.5I	G12	G12/0.49	13/1.5	"	B	WR Fgi		v sl str
							IIaO-E				
							IIaO-E				
400/100		6 8 7.66	FO- G1	G-16B	G-16/0.38	13/1.5	IIaO-E	A	Cepheid/Evans UV Retain focus 80R		fine
300/300		9.0	G5	G16 B	G16/0.38	20/1.5	IIaO-E	B	RS CVn	" "	fine
600/200		"	"	G-16 R	G16/0.70	20/1.5	098-02	A	"		v sl wk
							098-02				
							098-02				
100/100		6.68	G0	G-16R	G16/0.70	13/1.5	098-02	B	RS CVn		v sl wk
100/100		7.29	G5	G-16R	G16/0.70	13/1.5	098-02	A	" "		v sl wk
					098	A²	24 184				
					1100	8m	20 200				

95 #1

Date Aug 25/26 (Thur/Fri) 1977 Observers BB-Ri

Emulsion Batches:
Tao-E 10027-20087
098-02 20047 25087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41853	HD191610	20h 5.7	+36°33′	19.48	20:00	2 09 E	+36°53.1	Fe Arc ND=1.10	13 13 13
41854	HD139319 (TW Dra)	15h 32.4	+64°14′	20:20	20:33	3h 00 W	+63°50.9	"	8-8-8
41855	"	"	"	20:34	20:45	3h 12 W	"	"	8-8 8
41856	"	"	"	20:47	21:07	3h 35 W	"	"	9-9-9
41857	"	"	"	21:09	21:29	3h 56 W	"	"	9-9-9
41858	"	"	"	21:31	21:52	4 19 W	"	"	9-9-9
4195871	spot calib for plates 41853; 64-65				15 min @ 15 volts		D4 3900 D3 4300		P2 4810
4185872	cont steps used for plates 41853; 64-65				90 sec				
41859	HD139319 (TW Dra)	15h 32.4	+64°14′	21:53	22:13	4 40 W	+63°51.2	Fe Arc ND 1.10	9-9-9
41860	"	"	"	22:14	22:38	5 05 W	"		9-9-9
41861	"	"	"	22:39	22:57	5 24 W	"		9-9-9
41862	RS Cap	4h 48.6	+30°06′	23:14	1:51	5 10 E	+30°19.9	"	8-8-8
4186211	spot calib for plates 41834 – 60				15 min		D3 1V 4810 D1 70 Hd		D2 7U 5450
41863	HD276247 (RW Per)	4h 13.4	+42°04′	2:09	4:02	2 16 E	+42°22.3		8-8-8
4186311	spot calib for plates 41861 – 63				15 min	D2 7U 5450	D1 Hd	7U	D3 1V 4810

Spectr. T
Focus
Spectr.
Exp Mtr

Spectr. Temp. 62°F Dome Temp./Hum. 15°C 75% Transparency Conditions ... excellent

Focus 20.R

Spectr. Temp. ... Dome Temp./Hum. ...

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/100	2'	4.9B	BBJe	G12	612/0.49	13/.9	IIaOe	A	Sp Bin Bln		v sl str
800/62		7.5V	A6	G65	643/0.49	20/.4	098-02	B	Eclp Bin BB	Wr 4 Filter in. Telescope reversed	fine
800/60		"	"	"	"	"	"	A	"	" "	fine
800/77		"	"	"	"	13/.5	"	B	"	" "	v sl wk
800/77		"	"	"	"	"	"	A	"	" "	"
800/78		"	"	"	"	"	"	B	"	" "	"
							IIaO-E				
							IIaO-E				
800/75		7.4V	A6	G-65	643/0.49	13/.5	098-02	A	Eclp Bin-BB	Wr 4 Filter in. Telescope reversed	
800/75		"	"	"	"	"	"	B	"	" "	
800/75		"	"	"	"	"	"	A	"	" "	sl wk
64		10.0V	A5e	"	"	20/.4		B	"	Karl: I did two spot each since you can only close up 7 plates at a time then in two separate sets	sl wk
							098-02				sl wk
800/70		9.5V	A5+6	"	"	"	"	A	"	"	
		Co. 09 next page					098-02				

97 #2

Date Fri Aug. 26. 1977 Observers BB-RJ

Emulsion Batches:
Ha0-E 10027 - 20087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41864	HD 222107 (λ And)	23h 32.7	+45°55	04:11	4 26	250W	+46°29′	Fe Arc N.D.=1.10	14-14-7
41865	HD 4502 (5 And)	0h 42.0	+23°43′	4:30	4:47	201W	+24°15.6	"	14-14
41865T1	focus test	out of d/w in						No Filter	5/5

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

Focus ..... 20R .....

Spectr. Temp. ..56°F..... Dome Temp./Hum. ..12°C...95% .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/83	2-3	3.75	G8 III-IV	G-12	G-12/ 1.490	9/.5	IIaO-E	B	Ly - Phos.		fine
200/81		4.06	K1 III p	"	"	"	"	A	"		
						9		B		temp - 56°F	
				IIaO 8m			22 190				
				098 4½m	Dig 68°F		20 173 / 20 176				

99

Fri - Sat

Date Aug. 26-27. 1977. Observers Ly-Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41866	HD191610 (28 Cyg)	20 08.7	+36°33′	19:45	19.59	02h07E	+36°53′	Fe Arc NC=1.10	13-43
41867	HD175426 (δ' Lyr)	18 50.2	+36° 51	20·03	20 15	00h36E	+37°04	"	13 13
41868	HD143313	15h54.6	+25° 52	20:26	21:39	03h45W	+25°46′	Fe ARC NC=1.10 UV Filter	7 16
41868T1	opt wedge for plate	41866 -				15 sec @ 15 volts	D4 3900	D3 4300	D2 4810
41868T2	cal step wedge for	plate 41866-68				90 sec			

Spectr. Ter
Focus....
Spectr. Te

Exp Mtr.
2m/105
4m/110
5m/74

Spectr. Temp. ..66°F..... Dome Temp./Hum. ...12°C...86% Transparency Conditions ..light..cirrus..... 100

Focus .....10R.....

Spectr. Temp. ..... Dome Temp./Hum. .....

there was a big fire on observatory land
it looks like the lumber yard or block factory

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/105	2"	4/98	B3Ve	G12	G12/.47B	13/.9	IIaDe	A	Sp Bin-Bln		v sl str
" 13 3/4 110/110		5.51	B3	"	"	13/.5	"	B	Sp Bin-Ly		v sl str
800/74		9.5	K5	G16	G16B/.38	15/.3	IIaO	A	HoK Bin-Ly	Forms 70R cld ofcrse by fire + smoke etc	Wh
							IIIa-E				
							IIIaO-E			it cleared in	
						7 1/2"	Dig 70°F	21	183		

Comparison Type/Filter | Exp.

Fe Ne 1/10 | 13 3/4
" 13 3/4
Fe Ne 1/10 | 7 1/2
D3 | P2
300 | 4810

101

SUN/MON

Date Aug 28-29, 1977 Observers Fgi - Ri

Emulsion Batches:
IIaaE ..19077 - 26087
098-02 24047 - 25087
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41869	HD 190918	20h 02.2	+35° 31	19:45	21:24	00h 31 E	+35° 50	Fe Arc NO-1.1	13 13-1
41869T1	spot each for plates	41869-70 + 77				15min @ 15rot/s	D4 3500 D3 4800	D2 4810	
41869T2	cal step wedge for plates	41869-70 + 77				90sec			
41870	HD 191610	20h 05.7	+36° 33	21:27	21:41	00h 17 E	+36° 54	Fe arc ND=1.1	13-13-13
41871	HD 210334	22h 04.6	+45° 15	21:56	22:44	01h 13 E	+45° 44	Fe arc no filter	4-4-4
41871T1	spot each for plates	41871-76				15min	D3 15V 4810	D1 7V H2	D2 7V 5450
41872	HD 213389	22h 26.0	+48° 51	22:49	00:00	00h 17 E	+49° 20'	Fe arc no filter	4-4-4
41873	HD 216489	22h 48.1	+16° 19	00:08	00:46	00h 06 W	+16° 50	Fe arc no filter	4-4-4
41874	HD 219134	23h 08.5	+57° 37	00:51	01:16	00h 15 W	+57° 08	Fe arc no filter	4-4-4
41875	HD 224085	23h 49.9	+28° 06	01:21	03.43	02h 02 W	+28° 38	Fe arc no filter	4-4-4
41876	HD 22468	3h 31.6	+0° 16	03:47	04:36	00h 48 E	+0° 38'	Fe arc no filter	4-4-4
41877	S And	0h 42.0	+23° 43'	04:42	05:05	02h 31 W	+24° 16	Fe arc ND=1.1	13-13

Spectr. Temp. 80°F Dome Temp./Hum. 96°F/82% Transparency Conditions ... very hazy - humid

Focus 20B

Spectr. Temp. 76°F Dome Temp./Hum. 23°C 97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/600	1-2	7.1	WN4.5 +09.5Ia	G12	G12/.49B	18/1.5	IIaO-e	A	WR Fgi		fine
							IIaO-E				
							JaO-E				
00/100	2-3	4.98	K3Ia	G12	G12/.49B	13/1.9	IIIaO-E	B	Sg Bn B/n	BROKEN 2 PIECES	fine
00/251	2-3	7.3	G5	G16	G16/.7B	13/1.5	098-02E	A	RS CVn		v sl wk
							098-02E				
00/251	2-4	7.52	K0	G16	G16/.7B	13/1.5	098-02E	B	RS CVn		v sl wk a/m D
00/201	3-4	V=5.6	gK1	G16	G16/.7B	13/1.5	098-02E	A	RS CVn		v sl wk
00/200		6.57	K3V	G16	G16/.7B	13/1.5	098-02E	B	RS CVn		fine
00/250		8.3	K0	G16	G16/.7B	13/1.5	098-02E	A	RS CVn		sl wk
00/250		6.68	G0	G16	G16/.7B	13/1.5	098-02E	B	RS CVn		v sl wk
00/70		4.06	K1IIIp	G12	G12/.49B	9/1.5	IIaO-E	A	Bright Star pushing down		fine
					098 4"		69°F	25	142		
					IIaO 7½"		70°F	22	178		

103

Emulsion Batches:
IIaO 10027-26087

Date AUG. 29/30 Mon-Tues. Observers But-Ri

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41878	HD191610 (28 Cyg)	20 05.7	+36 33	22 15	21 35	00 42W	+36 54	N.D.	13-[illegible]
41879	HD 208835	21 53.7	+46 23	22:44	01 52	02 10W	+46 53	N.D 1.0 FE ARC	13-18
41879T1	spectral calc. for plate 41878-					15 min @ 15 hrs	D4 3900	D3 4300	.2
41879T2	cal step wedge for plate 41879-					90 sec			
41880	HD 18337	02 51.7	+59 11	02 00	05 00	00 19W	+59 35	FE ARC N.I.	13-13-1[illegible]

Spectr. Temp. 72°F ..... Dome Temp./Hum. 20°C/100% Transparency Conditions GOOD 104

Focus ..... 10.B .....

Spectr. Temp. 63°F ..... Dome Temp./Hum. 15°C/100+%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/101	4-5	4.98	63½°	G12	G12 .491	13/.9	IIaO E	A	Sp Bin Bin		vsl str
00/140		7.39	A0	G-12	G-12/.491	13/.5	IIaO-E	B	Ap-MR		fine
							IIaO-E				
							IIaO-E				
00/112		7.85	A0	G12	G12/.491	13/.5	IIaO E	A	Ap MR	BROKEN 2 PIECES	sl wk
					8m	DIG	68°F	20	182		

105

Date AUG. 30/31. Incl. Wed. 71 Observers Tut: Ri

Emulsion Batches:
IIaO E. 19027 - 26087
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41881	HD 191610 (28 Cyg)	20 05.7	+36 33	19:35	19:51	01 58 E	+36 53	FE ARC N.D. 1.1	13-13-12
41882	HO176003	18h 53.0	+44° 05'	19:55	20:30	00 06 E	+44 18	"	13-26
4188291	spectra for plates	41881-82			15 min @ 15 Volts		D4 3900	D3 4300	D2 4810
4188292	cal step wedge for plates	41881-2				90 sec			

Spectr. Temp. .68°F..... Dome Temp./Hum. .19°C/.92%.. Transparency Conditions 106

Focus .....10.8.....

Spectr. Temp. ..68°F..... Dome Temp./Hum. ..19°C/.100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/100	3-4	4.98	B3 Vc	G12	G12/.498	13/9	IIIaOE	A	Sp Bin Bla		fair
00/ 43		7.00	A1	G-12	G12/.498	13.5	IIIaJ-E	B	Am - MR	FOG	wk
							IIaO-E				
				7½"	D19	69°F					

Comparison
Type/Filter Exp

107

Date Aug. 31/Sept 1 Wed/Thurs Observers Rm. Tn.

Emulsion Batches:
IIa-G 10027 - 30087
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
41883	HD 191610 (256yg 10)	20 057	+36 33	19:29	20:08	01 37E	+36 55	Fe Arc Ne 1.40	13-12-11	20 90
41883T	Spec of Comp. for 41883 - 85.				15ma @ 15V	D4 3900	D3 4300	D2 4810		
41884	HD186688: SUGyg	19h40.8	+29° 01.4	20:25	22:19	+00 59W	+29 22	Fe UV+ ND 1.10	7-7-7	35
41885	HD163506: 89 Her	17h51.9	+26° 4	22:23	23:27	03 5W	+26 12	Fe UV ND 1.10	7-7-7	94

108

Spectr. Temp. ..71°F..... Dome Temp./Hum. ..72°F..../ 90% Transparency Conditions ..... Hazy → thin. Cloud

Focus ...10-B...+50R.....

Spectr. Temp. ..67°F..... Dome Temp./Hum. ..67°F./100 %

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/90	3-5"	4.98	B3Te	G 12	G12/.49B	91.9 13/1.9	IIaO-e	A	SB Blue	maybe fogged/t 9 widths. Probably	fine
100/95	3"	6.8/7.7	PO-G1	G16B	G16B/.38B	13/1.5	IIaO-E	B	Cyclid/Eagle	UV filter in - Focus +50R	fine
100/94	2"	6.82	F2Te	G16B	G16B/.38B	13/1.5	IIaO-E	A	" "	UV filter in Focus +50	fine
										Cloud	
					7½" D19 69°F						

109

1977

Date Sep. 3-4 Sat-Sun Observers Bk - To

Emulsion Batches: *
IIaO 10027 - 30087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
41886	HD 165590	18 01.6	+21 26	19 46	23 51	4 21 W	+21 35	Fe Arc ND 1.10	15-15-1
41886T	Spot Cal'n for 41886				15min @ 15V	D4 3900	D3 4300	D2 4810	
41887	HD 211073	22 09.6	+39 13	0 02	1 10	1 34 W	+39 43	Fe Arc ND 1.10	15-15-1
[illegible]	HD 215373	22 39.6	+41 18	1 16	2 08	2 00 W	+41 48	Fe Arc ND 1.10	15-15-1
41889	HD 6288	0 58.7	+ 0 50	2 16	3 14	1 24 W	+ 1 24	Fe ND 1.10	15-15-1
41890	HD 15524	2 24.8	+24 48	3 20	4 10	0 15 W	+25 17	Fe ND 1.10	15-15-1
41891	HD 9774	1 30.5	+72 32	4 18	5 02	2 01 W	+73 02	Fe ND 1.10	17-15-1
				Developed to look for Oil fog					
T1	Fog Tests	Box #	1	no fog					.29
T2	"	"	3	no fog					.22
T3	"	"	4	no fog					.16
T4	"	"	7	sl fog [illegible]					.37
									fog sl high
									about .0

Spectr. Temp. 67°F ..... Dome Temp./Hum. 63°F / 75%

Focus . To ... 0 ... From +50R

Spectr. Temp. 58°F ..... Dome Temp./Hum. 55°F / 94%

Transparency Conditions . thin .. cirrus .. occasional.

* Plates found unevacuated. Chamber fuse had blown during last 2 days probably on Friday with high moist

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/314+	3"-2"	7·7	G1 V	G12	G12/0A9B	18/5	IIaO	B	Waterloo	* Vac lost? Fuse? Cloudy chip off edge	
						13/.5					
200/140	3"	5·5	K3 III	G12	GD1.49B	13/5	IIaO	A	"		
200/120	2-3"	6·1	K0 III	G12	G12/.49B	13/.5	"	B	"		F-G
100/200	3"	6·4	A8 III	G12	GD1.49B	13/.5	"	A	"		F-G
100/200	"	6·3	F5 IV	G12	"	13/.5	"	B	"		F-G
100/250	2-3"	6·3	G8 II	G12	"	13/.5	"	A	"		v sl str
		9"	D19 @	70°F	=Pushed		.29 2/10			Kk - Perhaps All should be	
This box	evacuated	in Contaminated Chamber)					IIaO (10027-03097)			pushed? - because of no Vac	
							127			They are over exp anyway	
		5 min	D19 @	70°F			IIIaJ			to off set-up.	
							098				

111

Date 1977 Sept. 5-6 Mon-Tues Observers But-Tn

Emulsion Batches: IIa 0-E 10027 - 30087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41892	HD176003	18 53.0	+44 05	19 25	21 27	01 15W	+44 20	FE A-2 N.D. 1.1	13-13-1
41892T	Spot Calib for 41892 - 94				15min @ 15V	D4 3900	D3 4300	D2 4810	
41893	HD 190165	19 58.6	+45 11	21 38	00 34	03 17W	+45 35	Fe Ar N.D. 1.0	13-13-1
41894	HD 217695	22 57.4	+47 24	00 40	03 54	03 36W	+48 00	FE A- N.D. 1.1	13-13-
41894T	Step Calib for	41892 - 94			90sec				

Spectr. Temp. 67°F Dome Temp./Hum. 67°F / 86% Transparency Conditions hazy but OK

Focus 0

Spectr. Temp. 60°F Dome Temp./Hum. 56°F / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
~/140	3"-4"	7.00	A1	G12	G12 /498	13/5	IIaO E	A	Am MR	broken 3 pieces saved Too many breaks lately?	Lost in Dec
700/140	4"-6"	7.58	A2	G12	G12 /498	13/5	IIaO-E	B	Am MR		exp fine [illegible]
00/153	3"-4"	7.50	A0	G12	G12/498	13/5	IIaO E	A	Ap MR		fine
									unexp	Cor fusted	
				~ 8m Dig	68°F	(started timer late, dev. uncertain by ± 1 min)					
				new Dig, stop, & hypo clear							

113

Date SEPT. 6/7 Tues/Wed. 77 Observers Burt - Tu

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41895	HD 222416	23 35.3	+44 31	23 36				FE ARC N.D. 1.10	13

Spectr. T
Focus ..
Spectr. T

Exp. Mtr.

Spectr. Temp. ..63°F..... Dome Temp./Hum. 60°F./.96% Transparency Conditions ..HAZY - Cloudy..... 1/4

Focus .....10.R.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		00/	2-4	7.95	09	G12	G12/1498	13/5	1-0	A	A_p MR	CLOUD	

115

Date Sept. 8/9 (Thu/Fri) 77 Observers ... BB-Tn .....

Emulsion Batches:
IIa0-e ... 10027 - 07097
098-02e 10047 - 07097
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41895	HD191610 (28 Cyg)	20 05.7	+36°33′	19:13	19:27	1 46 E	+36°52′9	Fe arc ND 1.10	13-13-
41895T	Spot Calib for 41895			15 min @ 15V		D4 3900	D3 4300	D2 4810	
41896	HD191240 (SW Cyg)	20h 3m 8	+46°0′	19:37	21:44	0 33 W	+46° 20.9	Fe arc ND 1.10	8-8-
41897	" "	"	"	21:46	23:52	2 45 W	"	"	8-8-8
41897T	Spot Calib for 41896-98			15 min @	15V D3 4810	7V D1 Hα	7V D2 5450		
41898	HD191240	20 3.8	+46 01	23 53	1:25*	4 15 W	+46 22.5	Fe Arc ND 1.10	8-8-8
					1:10				
* Almost no counts > 1:10									

Spectr. Temp. 63°F Dome Temp./Hum. 63°F / 84% Transparency Conditions . Good - sl haze thin cloud by 20:30

Focus 10-R

Spectr. Temp. 60°F Dome Temp./Hum. 56°F / 100+?

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/93	2"	4.98	B3Ie	G12	G12/1.490B	13/19	IIaO-e	A	SB Blu	broken 2pces	1 piece discovered (obstructed on face-?)
300/60	2"	9.5v	A2+K0	G65	G43/1.490B	20/14	098-02e	B	BB eclip bin	some cloud	1 wk
300/60	2-4"	"	"	"	"	"	"	A	"	more cloud	sl wk
800/43	2-3	9.5v	A2+K0	G65	G43/1.49B	20/14	098-02e	B	BB Ecl Bin	foggy & wet	wk
				098	4m Dif	68°F					
				IIa0	8m "	"					

117

Fri-Sat

Date 1977 Sep 9/10 Observers KK-Tn

Emulsion Batches:
HSI
098-02 10047-07097

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41899	HD 192909	20 12.4	+47 24	1 1:10	02 18	5 02 W	+47 39	Fe no filter	10 70-10
41899T	Spot calibration		1) Hα	D1 7v 40m	2) Hα	D2 7v 10m	3) Hα	D3 7v	2.5m
41900	HD 1326	0 12.7	+43 27	2 34	3 37	2 19 W	+43 52	Fe ND 1.10	10-10-.
41900T	Spot Calib for	41900		15 min @	15v D3 4810	7v D1 Hα	7v D2 54 50		
41901	HD 1326	0 12.7	+43 27	3 39	4 48	3 31 W	+43 53	Fe ND 1.10	10 70-1

Spectr. T
Focus
Spectr. T
Exp. Mtr
200/150
800/30
800/34

Spectr. Temp. 70°F ..... Dome Temp./Hum. 64°F / 83% Transparency Conditions ... Clear by 01h
Shortly after Thunder showers

Focus ... 10 ... B .....

Spectr. Temp. 62°F ..... Dome Temp./Hum. 56° / 93%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/250	3-6"	5.4	KO+ A3	G 12/24	24/.49B	13/.5	HSI	A	Asm Spec KK		
							HSI				
300/30	2-3"	V=8.1	M IV	G65	G43/.49B	13/.5	098-02e	B	"		~~out of focus~~ sl wk
300/34	2-3	V=8.1	M IV	G 65	G43/.49B	13/.5	098-02e	A	"		sl wk ~~out of focus~~ ?
				HSI 8m	D19	68°F	15	112			
				098 4m	D19	69°F	22	163			

119

Sun - mon

Date 1977. Sept 11-12 ... Observers E.g.i. - T.n .....

Emulsion Batches:
... II a-O-E 1.0027 - 07097
... 098-02E 2.0047 - 07097
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41902	HD 191610	20 05.7	+36 33	19 11	19 28	1 35 E	+36 55	Fe Arc ND 1.10	13-1[illegible]
41902T	Spot Calib for 41902			15 min	@ 15V	D4 3900	D3 4300	D2 4810	
41903	HD 190918	20h 02.2	+35° 31	19 37	21 38	0 39W	+35° 51	Fe Arc ND 1.10	13-13[illegible]
41904	HD 219113	23h 08.3	+02° 08	21 51	00 28	0 22W	+2 42	Fe Arc ND 1.10 + UV	6-6
41905	HD 219113	23h 08.3	+02° 08	00 35	02 22	2 19W	+2 41	Fe Arc UV	4-4-4
41905T	Spot Calib for 41905			15 min	@ 15V 4810	D3 7V H2	D1 7V- 5450	D2	

Spectr.
Focus.
Spectr
Exp Min

Spectr. Temp. ..61..°F..... Dome Temp./Hum. 60°F/....80% Transparency Conditions .Very good.....120....

Focus ....20-R.....

Spectr. Temp. ....54°F..... Dome Temp./Hum. 54°F/..75%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/96	2"	4.98	B3Ve	G12	G12/.498	13/1.9	IIaO-e	A	SB Cl		v sl str
											no good dev. 30 min?
400/250	2-3"	7.1	wN4.5+ 09.5Ib	G12	G12/.498	13/1.5	IIaO-e	B	WR/Fe		v. sl str
400/251	2½-3"	9.0	G5	G16B	G16B/.388	18/1.5	IIaO-e	A	RS CVn	SZ Psc UV Fl. Herin	sl str
400/87	2	9.0	G5	G16	G16/.78	18/1.5	098-02e	B	RS CVn	SZ Psc CLOUDS	fine
							"				
				098	4m Dlg	69°F	25 167				
				IIaO	8m Dlg	68°F					

121

Wed/Thurs

Date 1977 Sept 14/15 Observers Fgi-Ri

Emulsion Batches:
103-E 10027 07.097
098-02E 20047 07.097

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41906	HD 191610	20h 05.7	+36° 33	19:10	19:30	01 21 E	+36° 52.7	Fe Arc ND 1.10	13-13-13
41907	HD 209813	22h 01	+46° 44.9	19:40	21:30	01 16 E	+47° 13.6	Fe Arc no filter	4-4-4
419079	spot cal for plate 41906 + 41912				15 min @ 15 Volts	D4 3900	D3 4300	D2 4810	
4190792	cal step wedge for plate 41906, 12					90 sec			
41907T3	spot cal for plate 41907 - 41911				15 min	D3 15V 4810	D1 74 Hα	D2 70 5450	
41908	HD 209813	22h 01	+46° 44.9	21:31	22:44	00 00E	+47° 13.6	Fe Arc no filter	4-4-4
41909	HD 209813	22h 01	+46° 44.9	22:45	00:14	01 30W	+47° 13.6	11	4-4-4
41910	HD 219113	23h 08.3	+02° 08	00:22	03:22	03 29W	+02° 40	11	4-4-4
41911	HD 22468	3h 31.6	+0° 16	03:27	04.10	00h 06E	+00° 37	11	4-4-4
41912	HD 222107	23h 32.7	+45° 55	04.18	05:04	04h 47W	+46° 27	Fe Arc NO Filter	13-13-

Spectr. Temp. 62°F Dome Temp./Hum. 60°F/80% Transparency Conditions some cirrus clouds 122
after 00:00

Focus 10 R

Spectr. Temp. 56°F Dome Temp./Hum. 12°C/100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/97	3-4"	4.98	B3Ve	G12	G12/.49B	13/9	IIaO-e	A	S Brn/Bln		v sl str
00/250		7.52	K0	G16	G16/.7B	13/1.5	098-02e	B	RS CVn	HK Lac	v sl wk
							IIaO-E				
							IIaO E				
							098-02			large flake on central spot	
00/251		7.52	K0	G16	G16/.7B	18/1.5	098-02	A	RS CVn	HK Lac	fine
00/250		7.52	K0	G16	G16/.7B	18/1.5	098-02	B	RS CVn	some cirrus clouds HK Lac	fine
00/250		9.0	G5	G16	G16/.7B	20/1.5	098-02	A	RS CVn	SZ Psc	uneven, sl wk
00/250		6.7	G0	G16	G16/.7B	18/1.5	098-02	B	RS CVn	HR 1099	fine
00/80		V=3.75	G8 III-IV	G12	G12/.49B	9/1.5	IIaO-e	A	Brt. Str/Ly	1 And	fine
					098 4m		27166				
					IIaO 8m	Dig 68°F	24,185				

123

Fri/Sat

Date ..... Sept 23/24 Observers .....

Emulsion Batches:
... IIa-O-e 12027-07097
+ IIa-e 20077-21097
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41913	HD 222107	23 32.7	+45 55	00 18	00 42	00 59 W	+46 15	Fe Arc ND 1.10	13-14-13
41913T1	Spot Cal'n for 41913-14				15min @ 15V	D4 3900	D3 4300 D2 4810		
41913T2	Strip Cal'n for 41913-14				90sec				
41914	HD 4502	00 42.0	+23 43	00 49	01 24	00 34W	+24 01	Fe Arc ND 1.10	13-13
41914T	Spot Cal'n (new batch)		15m @ 15V	D3 4300					

Spectr. T
Focus ..
Spectr.

Exp. Mtr
200/100
200/66

Spectr. Temp. 56°F Dome Temp./Hum 53°F / 99% Transparency Conditions Semi-clear by Q 4 124

Focus 35A

Spectr. Temp. Dome Temp./Hum. / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/100	2"	V= 3.75	G8 IIIaJ	G12	G12/49B	9/5	IIaO-e	A	Ha K Bin-Ly	λ AND.	V S/ STr
		(cleaned	junk off	center spot)			IIaO-e				
							IIaO-e				
200/66	2-3"	V= 4.0	K IIIp	G12	G12/49B	9/5	IIaO-e	B	Ha K Bin-Ly	} AND. Cloud	fine
							*IIaOe			Broken 2 pcs saved	
				7m D19	68°F	Plates may have been slightly fogged by darkroom 22,180					
						window light leaks				41914T 21,163	

125

Date Wed/Thurs. Sept. 28/29, 1977 Observers Zd.-Tn.

Emulsion Batches: 127-05 IIIa-F ... 020-95 - 16097

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41915	HD 212098 (32 Peg)	22 16.7	+27 50	18:51	22:13	00 06 W	+28 17	Fe Arc UV	8-8-8
41915T	Spot Calib for 41915-22			15 min	@ 7.5V	D4 5100	D2 Hα	D3 5450	
41916	HD 19356	3 1.7	+40 34	22:30	22:52	04 03 E	+40 53	Fe arc UV	9-9-9
41917	HD 19356	"	"	23:05	23:38	03 15 E	"	Fe arc UV	10-9-9
41918	HD 19356	"	"	23:53	00:24	02 30 E	"	Fe arc UV	9-9-9
41919	HD 19356	"	"	00:33	01:04	01 50 E	"	Fe arc UV	9-9-9
41920	HD 19356	"	"	01:11	01:40	01 13 E	"	Fe arc UV	9-9-9
41921	HD 19356	"	"	01:53	02:17	00 35 E	"	Fe arc UV	9-9-9
41922	HD 19356	"	"	02:29	02:50	00 04 E	"	Fe arc UV	9-9-9
41922T	Spot Calib for 41915-22			15 min	@ 9.0V	D4 5100	D2 Hα	D3 5450	

Spectr. Temp. 56°F ..... Dome Temp./Hum. 55°F / 75% Transparency Conditions .. Very good ..... Cal 300 ang

Focus ..... 40-R .....

Spectr. Temp. 49 °F ..... Dome Temp./Hum. 49 °F / 100+%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/576	3"-6"	4.83	B8 I	G16R	G16/0.7B	13/5	IIaF-e 127-05 E	A	Zd-Algol Std	UV Filter	fine
											fine
40/126	3"-4"	2.2v	B8 I	G16R	G16/0.7B	9/7	IIaF-e	B	Zd-Algol	"	fine
40/176	3"	"	"	"	"	9/9	"	A	Zd-Algol	"	fine
40/173	2"-3"	"	"	"	"	9/9	"	B	Zd Algol	"	exp fine fringe-print
40/171	"	"	"	"	"	9/9	"	A	Zd Algol	"	fine
40/165	"	"	"	"	"	9/9	"	B	Zd Algol	"	fine
40/170	"	"	"	"	"	9/9	"	A	Zd Algol	"	fine
40/173	"	"	"	"	"	9/9	"	B	Zd-Algol	"	fine
Dig chuck broken out Stored in Empt ad Unexp Box										Too humid	str
										L Drive funny	
				5m Dig	68°F	25 290	stronger exp				

127

Date OCT. 3/4 MON/TUES T/ Observers B.A.-T.

Emulsion Batches: IIa0-e 20097 - 24097

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41923	HD 190165	19 58.6	+45 11	18 43	22 06	+0238W	+4534	FE ARC N.D. 1.1	13-13-13
41923T1	Spot Calib for	41923-25			15 min @	15V	D4 3900	D3 4300	D2 4810
41923T2	Strip Calib for	41923-25			90 sec				
41924	HD 232107 (2 AND)	23 32.7	+45 55	22 11	22 49	0014E	+46 21	FE ARC N.D. 1.1	13-14-1
41925	HD 17330	02 41.8	+29 17	23 11	01 46	0026E	+2943	"	13-13-1

Spectr. Temp. ..... Dome Temp./Hum. 52 / 176 Transparency Conditions .. v.erg. good 129

Focus ..... 40-R .....

Spectr. Temp. ... 52°F ..... Dome Temp./Hum. 50°F / 85% very gusty Cloud Sy 01 4

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20-/281	3"-5"	7.58	A2	G12	G12/1990	13/5	IIaOE	A	Am MR		fine
							IIaO-E				
							"				
00/105	2-6	375	G8	"	"	9/5	"	B	Ly Prog		sl str
00/88	5"-8"	7.17	B9	"	"	13/5	"	C	Ap MR	Cloud 01.10	v sl str
				7m DIM	68°F	22, 176					

129

Date Oct 4-5 Tues/Wed Observers But-Tu-Arabia Barker

Emulsion Batches:
IIaO-e 20047-24097
* IIaO-e 20047-04107
↘ 25 hrs Evacuation Only

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41926	HD 202313	21 09.9	+30 33	18 40	21 53	1 17 W	+30 58	Fe Arc ND 1.10	13-13+
41926T	Spot Calib for 41926				15 min	@ 15V	D4 3900 D3 4300 D2 4810		
41927	HD 217695	22 57.4	+47 24	21 56	01 08	2 44 W	+47 57	Fe Arc ND 1.1	14-14
41927T1	Spot Calib for 41927-29,				15 min @ 15V		D4 3900 D3 4300 D2 4810		
41927T2	Strip Calib for 41927-29.				90 sec				
41928	HD 22860	03 35.2	+28 23	01 16	03 42	00 40 W	+28 45	Fe Arc ND 1.10	15-15
41929	HD 51918	06 52.2	+42 26	03 46	05 34	00 46 E	+42 27	"	15-15-15

Spectr. T
Focus
Spectr.

Exp. Mtr.

Spectr. Temp. ..57°F..... Dome Temp./Hum.55°F/69% Transparency Conditions ..Photometric.....130

Some cloud by 01hr

Focus .....40-R.....

Spectr. Temp. ..50...°F..... Dome Temp./Hum.47°F/...97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/140	2"	7.56	B9	G12	G02B/049B	131.5	IIaO-e	A	Ap-MR		vslstr
							IIaO-e				
400/160	2-1"	7.50	A0	G12	"	"	IIaO-e*	B	Ap MR		fine
							"				
							"				
400/146	2"	6.87	B9	G12	G02B/049B	91.5	"	C	Ap MR	Some cloud	fine
400/129	2"	6.61	A0	"	"	"	"		Ap MR	Cloud by dawn	fine
					7m Dly 68°F		23 184				
							21 172				

131

Date Oct 5-6 Wed/Thurs. Observers BB - Ri - Vk

Emulsion Batches:
IIa-D-E 20047-04107
098:02-E 20017-29087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Spectr. Ter / Focus / Spectr. Ter / Exp Mir
	λ Aur							Fe ARC		
41930	HD 222107	23h 32.7	+45° 55'	21:25	22 02	0 53 E	46° 25.5	N.D. 1.10	13-13-1	2m/10s
41931	HD 4502 (ζ Aur)	00h 42.0	+23° 43'	22: 15	23 16	0 48 E	24° 14.1	Fe ARC N.D. 1.10	13-13-1	2m/10s
41932	HD 5679 (μ Cep)	00 59.9	+81° 45.1	23 35	00 03	0 17 E	+81° 49	"	10-10-1	80s/80
41933	HD 25487 (RW Tau)	3h 5m.8	+27° 51'	0 14	0 50	2 30 E	28° 10.1	"	8-8-8	80s/80
41933T1	spot calc for plate	41930-31			15 min @	15 volts	D4 39Ω	D3 43Ω	D2 4810	
41933T2	strip calc for plate	" "			90 sec					
41934	HD 49521 (RX Gem)	06h 48.7	+33° 16'	1: 23	3 42	2 23E	33 22.1		8-8-8	80s/60
41934T1	spot calc for plate	41932-			15 min	15U D3 4810	7V D1 Hz	7V D2 5450		
41935	HD 49521 (RX Gem)	06h 48.7	+33° 16'	3:46	5:36	0 29E	33° 21.4	Fe ARC N.D. 1.10	8-8-8	80s/55

Spectr. Temp. 54°F Dome Temp./Hum. 12°C 95% Transparency Conditions a few clouds fair to good 132

Focus 40R

Spectr. Temp. 50°F Dome Temp./Hum. 6°C 96%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/101	2-3	3.75	G8III-IIa	G-12	G-12/.490	9/1.5	IIaO-E	A	Ha + Bu-Ly	clouds	fine
200/101	"	4.06	KIIIp	G-12	G-12/.490	9/1.5	IIaO-E	B	" "		fine
800/80		7.0-9.8	B8+ G8III-IIIa	G-65	G43/.490	13/1.5	098-02E	A	BB eclip. bin.		v sl wk
800/80		8.0-12.5	A0+G	"	"	20/1.4	"	B	" "		v sl wk
							IIaO-E				
							IIaO-E				
800/60		8.5 10.6	A4	G-165	G43/.490	20/1.4	098-02E	A	BB eclip bin	EC > +7 min	sl wk
							098-02E				
800/55		8.5 10.6	A4	G-65	G43/.490	20/1.4	098-02E	B	"		sl wk
					IIaO 7m	D9	68°F	22	179		
					098 4m	"	"	31	185		

133 Thurs/Fri

Date 6/7 Oct 1977 Observers Fqi-Ri-Cy

Emulsion Batches:
IIaO 20047-04107
098-02-E 20047-29097

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41936	HD 191610	$20^h 05.7$	$+36° 33$	18:40	19:03	$00^h 20$ E	$+36° 54$	Fe arc ND=1.1	13-13 - 1
41937	HD 222107	$23^h 32.7$	$+45° 55$	19.12	19:51	$03^h 00$ E	$+46° 27$	Fe arc ND=1.1	13 13 -13
41938	HD 212097	$22^h 16.7$	$+27° 50$	20:07	20:42	$00^h 52$ E	$+28° 20$	Fe ARC UV Filter	4-4-4
41939	HD 31910	4 54.5	+60 18	21:06	21:34	$06^h 41$ E	$+60° 33$	Fe Arc no filter	6-6
41940	HD 21242	$03^h 20.5$	$+28° 22$	21:39	00:14	$02^h 25$ E	+28 46.5	Fe Arc no filter	4-4-4
4194091	spectrah for plate	41936-37			15min @ 15 volts		D4 3800 D3 4300 D2 4810		
4194092	strip calib for plate	41936-37			90sec				
4194093	spectrah for plate	41938-			15min	15UD3 4810	7UD1 Hd	7U D2 5450	
41941	HD 22468	$03^h 31.6$	$+00° 16'$	00:18	02:40	$00^h 09$ E	$+00° 37.5$	Fe Arc no filter	4-4-4

Spectr. Temp. 52°F ..... Dome Temp./Hum. 10°C/87% Transparency Conditions PATCHY CLOUDS

Focus 40R .....

Spectr. Temp. 76°F ..... Dome Temp./Hum. 12°C/100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/110	2-3	4.98	B3 Ve	G12	G12/.498	13/19	IIaO-e	B	SpBin/Bln	2BCyg	sl str
200/110		V=3.75	G8 III-IV	G12	G12/.498	9/15	IIaO-e	A	Brt Str/Ly	λ And	fine
400/160		4.83	B8V	G16R	G16R/.700	9/15	098-02E	B	Alg. Std	UV Filter IN 32 Peg	v sl wk
400/126		4.2	G0pIIa	G16R	G16R/.700	9/15	098-02e	A	Cepheid/Py	β Cam	fine
200/199		7.29	G5	G16R	G16R/.700	13/15	098-02e	B	RS CVn	UX Ari	sl wk
							IIaO-E				
							IIaO-E				
							098-02E				
400/188		6.68	G0V	G16R	G16R/.700	13/15	098O-02E	A	RS CVn	HR1099 CLOUDS	
					IIaO 6mm	Dfg	61°F	B 170			
					098 4mm			32 157			

Date 0917-8 Fri Sat Observers Bh - Ri - Rg

Emulsion Batches:
Iford E 20047-04107
.....
.....

OPE 5.1 (1-2-3 prob. 06107)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41942	HD191610	20h 05m 13s	+36°33	18:47	19:48	00h 28m W	+36°52	Fe ARC U.D. 1.1	13-13-3
41943	HD191610	"	"	20:11	21:30	02h 10m W	"	Fe ARC UVFilter	4-8
41943T1	spot calc for plate 41942					15mm @ 15 m/s	D4 3900		
41943T2	stays calc for plate 41942					90sec			
41943T3	spot calc for plate 41943					1 5mi 15 48 10	03 70 40	D1 7020 5450	

Spectr. Temp. 480F Dome Temp./Hum. 5°C 89% Transparency Conditions very hazy 136

Focus 50R

Spectr. Temp. 440F Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/203	5	4.98	B3De	G-12	G12/1.490	13/.9	IIaO-E	A	Sp Bri-Bk		v sl str +
400/83		"	"	G-16R	G16/.700	13/.5	098-02 E	B	" "	overdeveloped plasma	wk, except at Hδ
							IIaO-E				
							IIaO-E				
							098-01 E				
											* v. bkgrnd, edge fog?
					IIaO 6m			18	170		
					098 6m		DIJ 68°F	26	202		

137

Date 10/11 Oct. 1977 Mon/Tues Observers Fqi - Ri - Fer

Emulsion Batches:
IIaO 20097 - 07107
098-02 20047 - 06107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41944	HD 224559	$23^h 53.7$	$+45^\circ 51$	$18^h 39$	$19^h 22$	$03^h 33$ E	$+46^\circ 26$	Fe Arc ND1.1+UV	7-7-7
41945	HD 224559	$23^h 53.7$	$+45^\circ 51$	$19^h 25$	$20^h 15$	$02^h 41$ E	$+46^\circ 26$	Fe Arc ND1.1+UV	7-7-7
41946	HD 224559	$23^h 53.7$	$+45^\circ 51$	$20^h 16$	$20^h 48$	$02^h 09$ E	$+46^\circ 26$	Fe Arc ND1.1+UV	7-7-7
41947	HD 224559	$23^h 53.7$	$+45^\circ 51$	$20^h 49$	$21^h 21$	$01^h 35$ E	$+46^\circ 26$	Fe Arc ND1.1+UV	7-7-7
41947T1	spot cal for plate 41944 -		49			15mm @ 15 volt	D4 3300	D3 4300	D2 4810
41947T2	step cal for plate 41944 -		49			90 sec			
41948	HD 224559	$23^h 53.7$	$+45^\circ 51$	$21^h 22$	$22^h 05$	$00^h 51$ E	$+46^\circ 26$	Fe Arc ND1.1+UV	7-7-7
41949	HD 224559	$23^h 53.7$	$+45^\circ 51$	$22^h 06$	$22^h 56$	$00^h 00$	$+46^\circ 26$	Fe Arc ND1.1+UV	7-7-7
41950	HD 22468	$03^h 31.6$	$+0^\circ 16'$	$23^h 04$	$00^h 04$	$02^h 29$ E	$+00^\circ 40$	Fe Arc No Filter	4-4-4
41951	HD 22468	$03^h 31.6$	$+0^\circ 16'$	$00^h 05$	$00^h 46$	$01^h 48$ E	$+00^\circ 40$	Fe Arc no filter	4-4-4
41951T1	spot cal for plate 41950 -		53			15mm	15 UP3 4810	7UD1 Ha	7UD2 5450
41952	HD 22468	$03^h 31.6$	$+0^\circ 16'$	$00^h 50$	$01^h 46$	$00^h 47$ E	$+00^\circ 40$	Fe Arc no filter	4-4-4
41953	HD 22468	$03^h 31.6$	$+0^\circ 16'$	$01^h 47$	$02^h 12$	$00^h 22$ E	$+00^\circ 40$	Fe arc no filter	4-7
41953F1	focus test	on 03/31		40R @ 500F				no filter	5-5

Spectr. Temp. 54°F Dome Temp./Hum. 11°C/72% Transparency Conditions Patchy clouds 138

Focus 40R

Spectr. Temp. 50°F Dome Temp./Hum. 8C/100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/100	2-3	6.5	B3	G16B	G16B/0.38	13/1.5	IIaO-e	B	Cepheid/Py	UV Filter in Focus at 100R	
400/100	2-3	6.5	B3	G16B	G16B/0.38	13/1.5	IIaO-e	A	Cepheid/Py	UV filter, 100R focus	fine
400/100	2-3	6.5	B3	G16B	G16B/0.38	13/1.5	IIaO-e	B	Cepheid/Py	UV filter, 100R focus	fine
400/100		6.5	B3	G16B	G16B/0.38	13/1.5	IIaO-e	A	Cepheid/Py	UV filter, 100R focus	fine
							IIaO-E				
							IIaO-E				
400/100		6.5	B3	G16B	G16B/0.38	13/1.5	IIaO-e	B	Cepheid/Py	UV filter, 100R focus	fine
400/100		6.5	B3	G16B	G16B/0.38	13/1.5	IIaO-e	A	Cepheid/Py	UV filter) 100R focus	fine
500/251		6.68	GOI	G16R	G16R/.700	13/1.5	098-02	B	RS CVn	HR 1099	v wk
500/250		6.68	GOI	G16R	G16R/.700	13/1.5	098-02	A	RS CVn	HR 1099	
							098-02				
500/251		6.68	GOI	G16R	G16R/.700	13/1.5	098-02	B	RS CVn	HR 1099	v wk
300/35		6.68	GOI	G16R	G16R/.700	13/1.5	098-02	A	RS CVn	HR 1099	v wk
						9		B		CLOUDS	
					II30	6m			19 168		
					097	4m	Dry 68°F		26 182		

139

TUES/WED

Date 11/12 Oct 1977 Observers Fqi - Ri

Emulsion Batches:
IIaO - 20077 - 07107
098 - 20047 - 06107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41954	HD 191610	20h 05.7	+36° 33	20:04	20:29	01:25W	+36° 54	Fe arc ND=1.1	13-13-13
41955	HD 222107	23h 32.7	+45° 55	20:33	21:04	01:27E	+46 25	Fe arc ND=1.1	13-13-13
41956	HD 212017	22h 16.7	+27° 50	21:11	21:55	00:39W	+28 19	Fe arc UV	4-4-4
41956T1	spot cals for plates 41954-55				15min	@ 15 volts	D4 3900	D3 4300	D2 4810
41956T2	strip cals for plates 41954-55				90sec				
41957	HD 22468	03h 31.6	+0°16	22:00	23:26	05:03E	+00° 40	Fe ARC NO FILTER	4-4-4
41957T1	spot cals for plates 41957-61				15min	15 volts D3 4810	7 volts D1 Hd	7 volts D2 5450	
41958	HD 22468	03h 31.6	+0° 16	23:27	00:19	02h 11E	+00° 40	Fe ARC NO FILTER	4-4-4
41959	HD 22468	03h 31.6	+0° 16	00:22	01 07	01h 22E	+00° 40	Fe Arc NO FILTER	4-4-4
41960	HD 22468	03h 31.6	+0° 16	01 07	01:54	00h 36E	+00° 40	Fe Arc NO FILTER	4-4-4
41961	HD 22468	03h 31.6	+0°16	01:55	02.47	00h 17W	+00° 39	Fe Arc NO FILTER	4-4-4

Spectr. Temp. 52°F Dome Temp./Hum. 8°C/98% Transparency Conditions CLEAR 140

Focus 40R - 50R

Spectr. Temp. 44°F Dome Temp./Hum. 6°C/88%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/103	5+v	4.98	B3Ve	G12	G12/.490	13/1.9	IIaO-e	B	Sp Bin/Bin	28 Cyg	
200/101		V=3.75	G8	G12	G12/.490	9/1.5	IIaO-e	A	Hyk/Lyn	And	fine
400/199		4.83	B8 V	G16	G16R/0.78	9/1.5	098-02	B	Alyl Std Star	32 Peg UV filter in	fine
							IIaO-e				
							IIaO-E				
300/251		6.68	G0 I	G16	G16R/0.78	13/1.5	098-02E	A	RS CVn		fine
200/252		6.68	G0 V	G16	G16R/0.78	13/1.5	098-02E	B	RS CVn		fine - end fringed
sky/250	3-4	6.68	G0V	G16	G16R/0.78	13/1.5	098-02e	A	RS CVn	focus at 50R	
800/253		6.68	G0V	G16	G16R/0.78	13/1.5	098-02e	B	RS CVn	end broken	fine†
sky/196		6.68	G0 V	G16	G16R/0.78	13/1.5	098-02e	A	RS CVn	clouds BROKEN 2 PIECES	fine†
						IIaO 6m		D19	[illegible] 21 175	† developed in broken-plate	
						098 4m			28 179	basket - co[illegible]	

141 Wed Thurs

Date 12/13 Oct 1977 Observers Rm - Vk - Tn / Fg - Tn

Emulsion Batches:
Expts #5 → IIaO-e 20077-07107
New Batch IIaO-e 20077 - 12107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41962	HL 186688 = SVCyg	19 49.8	+29° 01′	18:22	18 43	0 08W	+29 18	Fe Arc ND 1.1 V	5-7
41962T	Spot Calib for 41962-65,			15 min @ 14V		D4 3900	D3 4300	D2 4400	
41963	HD 196688 = SVCyg	19 46.8	+29 01	19:41	21:42	03:07W	+29 18	Fe Arc ND 1.1	5-5-5
41964	HD 203176	21 15.9	+37° 49	21:51	22 25	02 15W	+38 14	Fe Arc ND 1.1	7-7-7
41965	HD 191610 = 28 Cyg	20 05.7	+36° 33	22:46	22 55	03 55W	+36 53	Fe Arc ND 1.1	12-14-12
41966	HD 220974	23 23.0	+64° 49	23:01	23 30	01 12W	+70 17	Fe Arc ND 1.1	13-13-13
41966T	Spot Calib for 41966-68			15 min @ 15 V		D4 3900	D3 4300	D2 4400	
41967	HD 31910	04.545	+60 18	23 40.	23 56	3 57E	+	Fe Arc ND 1.0	13-13-13
41968	HD 22468	03h 31.6	+0° 16	00 07	02 11	0 15E	+00° 35.6	Fe Arc ND 1.0	13-13-13
41968T	Strip Calib for 41966-65			70 sec					

Spectr. Temp. 48°F Dome Temp./Hum. 45°F / 83% Transparency Conditions ... Cloudy - Clear times when clear, its Excellent

Focus 50R → 10B - 50R

Spectr. Temp. 43°F Dome Temp./Hum. 41°F / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/34	2"	6.8-7.7	F0-Ei	G16B	G16b/1.38	20/1.5	IIaOE	A	Cyphud/Evans	Focus 10B UV Filters	sl wk
							IIaO-E				no good
400/119	2"	"	"	"	"	"	IIaO-E	A	"	More Cloud	fine exp, sl fuzzy
400/120	2.3"	5.9	F3	G16B	"	13/1.5	IIaO-E	A	"	then Clear	v sl str
2.3/105	2"	4.98	B3Ve	G12 Focus 50R	G12/.49b	13/1.9	IIaOE	A	SB Bln	*Labelled "66" by accident	fine
50/77	2	5.4	A2IV	"	"	13/1.5	IIaOE*	B	Evans		fine
							" *				
40/28	2"	4.2	G0p Ib	G12	G0/.49b	13/1.9	" *	A	Evans to Perry		fine
700/136	2.3	6.68	G0V	G12	G12/.49B	13/1.5	IIaO-e*	C	RS CVn	cloud again	fine
							IIaO-e*				
						20					
				6" Dlg 68°F		17	170				

143

Fri/Sat

Date 14/15 Oct 1977 Observers Fgi-Tm-Rg-Pedreros

Emulsion Batches:
098-02 20097-06107
098-02 20097-12107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
41969	HD 22468	3h 31.6	+0° 16	23:14	00:24	01h 54 E	+00° 38	Fe Arc NO FILTER	4-4-4	800/25
41969T	Spot Cal'n for 41969 - 41971			15 min @	15V D3 4810	7V D1 Hα	7V D2 5450			
41970	HD 22468	3h 31.6	+0° 16	00:27	01:37	00h 42 E	+00° 38	Fe Arc NO FILTER	4-4-5	800/25
41971	HD 22468	3h 31.6	+0° 16	01:41	03:11	00h 52 W	+00° 38	Fe Arc NO FILTER	4-4-4	800/250
41972	HD 22468	3h 31.6	+0° 16	03:16	04:25	02h 07 W	+00° 38	Fe Arc NO FILTER	4-4-4	800/235
41973	HD 22468	3h 31.6	+0° 16	04:26	05:27	03 09 W	+00° 38	Fe Arc NO FILTER	4-4-4	800/250
41973T	Spot Cal'n for 41972 - 41973			15 min @	15V D3 4810	7V D1 Hα	7V D2 5450			

Spectr. Temp. 45°F ..... 0 Dome Temp./Hum. 41°F / 96% Transparency Conditions CIRRUS .....

Focus ..... 50-R .....

Spectr. Temp. 43°F ..... Dome Temp./Hum. 40°F / 89%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300/251	3"	6.68	GO V	G16R	G16R/7B	13/1.5	098-02e	C	RS CVn	HR 1099	v sl wk
							"				
300/251		6.68	GO V	G16R	G16R/7B	13/1.5	098-02e	A	RS CVn	HR 1099	v sl wk
800/250	2"	6.68	GO V	G16R	G16R/7B	13/1.5	098-02e	C	RS CVn	HR 1099 cloud	v sl wk
700/238		6.68	GO V	G16R	G16R/7B	13/1.5	098-02e*	A	RS CVn	HR 1099 NEW BATCH } BROKEN 2 PIECES	first
600/250	2-3	6.68	GO V	G16R	G16R/7B	13/1.5	098-02e*	C	RS CVn	HR 1099	fine
							098-02e				
				4m DIG 68°F		24	160 41973				
						27	160 41969				

145 1 GROUP OF ~80 VISITORS for ~40 min (from Waterloo thru Mosta)

Mon-Tues

Date Oct 17-18. 1977 Observers T.m.-Fgi.-Ar.e

Emulsion Batches:
098-02 2004 7 - 12107
* 098 02 2009 7 - 17107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41974	HD 212097	22 16.7	+27 50	18 27	18 59	01 54E	+28 16	Fe Arc UV	4-4-4
41974T	Spot Calib for	41974-	79	15min @	15V 03 4810	7V D1 Hα	7V D2 5450		
41975	HD 209975	22h 02.1	+61° 48	20h 13	20h 26	00h 12 E	+62° 10	Fe Arc UV	5-5-4
41976	HD 219113	23h 09.3	+12° 08	20 48	21 33	00 11E	+02 35	Fe Arc NO FILTER	4-4-4
41977	HD 22[illegible]8	03h 31.6	+0° 16	23 47	00h 29	01 35E	+00° 34	Fe Arc no filter	4-4-4
41978	HD 22[illegible]63	03h 31.6	+0° 16	00h 30	01h 31	00h 34E	+00° 34	Fe Arc no filter	4-4-4
41979	HD 22463	03h 31.6	+0° 16	01h 32	02h 31	00h 26W	+00° 34	Fe Arc no filter	4-8
41979T	Strip Calib for	41974-79.			90sec				
41979T2	new 098 02, evacuated 18h		Hα D1 7V 15m		.18, 1.76	30097-17107			
41979T3	" , unevacuated		" "	"	.17, 1.50	30097-17107			

Spectr. Temp. 42°F ..... Dome Temp./Hum. 10F / 63% Transparency Conditions Photometric - Cloudy

Focus 6.5-R ..... CLOUDS FOR ~2h

Spectr. Temp. ~~40°F~~ ..... Dome Temp./Hum. 36F / 90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/100	2"	4.83	B8 V	G16	G16 9/0.7B	9/1.5	098-02e	A	Algol std	uv Filter in	fine
							098-02e				
200/100	2"	5.19	09.5 Ib	G16B	G24/.38B	18/1.9	098-02e	B	CygX-1 std	FOCUS AT 80B - wrote 4	
80/80	2"	9.0	G5	G16R	G16R/0.7B	13/1.5	098-02e	C	RSCVn	Focus to 60R some cloud	sl wk uneven CLOUDS
100/125	2-3"	6.68	G0 V	G16R	G16R/.7B	13/1.5	098-02e	C	RSCVn	HR1099	fine
100/124	2-5	6.68	G0 V	G16R	G16R/.7B	13/1.5	098-02e	A	RS CVn	HR1099 some cloud	fine
4-/13	2-4	6.68	G0 V	G16R	G16R/.7B	13/1.5	098-02e	C	RS CVn	HR1099 mod cloud	v wk
							098-02e			CLOUDS FOR ~2h	

4¼m DIG 67.5F 27 164

147

Wed Thurs

Date 6-19-56 Observers K.M.-V.K.-T.M.

Emulsion Batches:
098-02e 30097 -17107
Zoo-e 20077 -12107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
41980	HD 206778	21h 39.3	+9 25	18:02	18.07	1 59E	+9 509	Fe Arc No Filter	7-7
41981	HD 186688 = 5V Cyg	19h 40.8	+29° 01	18:21	1933	1 25W	+29 19	Fe Arc N.D. 1.4 V	7-7
41981 T1	Spot Calc	for 41980, 82, 85.		15 min @	15V D3 4210	7V D1 Hα	7V D2 5450		
41981 T2	Spot Calc	for 41981, 83, 84, 86, 87.		15 min @	15V D4 3900	D3 4300	D2 4810		
41982	HD 187921 5V V	19h 47.4	+27° 23	19:41	21:56	03 41W	+27 30	Fe Arc No Filter	4-4
41983	HD 206778	21h 37.3	+9° 25	22:05	2215	02 08W	+9 52	Fe Arc N.D. 1.4 V	127
41984	HD 203126 = HR 8157	21h 15.4	+37° 49	22:19	22:52	03 11W	+38 16	Fe Arc N.D. 1.4 V	7-7
41985	HD 209975	22h 02.1	+61° 48	23:02	23 19	02 53W	+6216	Fe Arc UV Filter	4-4
41986	HD 220974 = HR 8911	23h 23.1	+69° 49	23:27	00 11	02 25W	+7019	Fe Arc N.D. 1.4 V	7-7
41987	HD 3910 = β Cam	04 545	60° 18	00 21	00 32	02 47E	+60°30	Fe Arc N.D. 1.4 V	7-14

Spectr. Temp. 49 °F Dome Temp./Hum. 48 / 93% Transparency Conditions Hazy → Fog → O.K. 148

Focus 50R → 90B → 50R

Spectr. Temp. ____ Dome Temp./Hum. 49°F / 100% +

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4 / 10	3"	3.99	K5IIb	G16r	G16r / -7B	9/5	098-02e	A	Std Vel	UV Filter in	v sl str
200 / 115	3"	6.8 - 7.7	F0 - G1	G16B	G16b / 38	13/5	IIaOE	B	Cepk / Evans	Focus 90B UV Filter	fine
							098-02e				
							IIaOe				
300 / 148	2-3	7.1 / 7.6	FT - K0	G16r	G16r / .76	13/5	098-02e	C	Cepk / Evans	Focus 50R no filters	ok
40 / 21 ??	"	3.98	K2IIb	G16b	G16b / .38	9/5	IIaOE	A	Std Vel	Focus 85B Ex mode ?	v sl str
200 / 100	2	5.89	F2	G16b	"	13/5	IIaOE	B	Cepkid / Evans		fine
400 / 200	3	5.19	G9.5Ib	G16b	G24 / .38E	18/9	098-02e	A	Cep X-1 Std	Written "4 in α = 23 04 m	fine
200 / 48	3'	5.50	A6II	G16b	G16 / .35	13/5	IIaOe	B	Evans	Written Out → UV in 2 pcs * broken	
200 / —	3"	4.2	Cep Ib	G16b	G16 / .38B	13/5	IIaOe	C	"		fussy
				IIaO	5½" D19 68°F		17 172				
				098			25 258				

149 Thurs – Fri Extensive Trouble with Dec Quadrilateral Repaired by Ric Tony

Date . Oct. 20-21/77. Observers . BB-Tn-Cy.....

Emulsion Batches:
. Date . 20077 - 20087
. 098-02e 20097 - 20107
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
41988	HD 222107	23 32.7	+45 55	20 33	20 44	01 12E	+4625	FeArc ND 1.10	12-12-12
41989	HD 4502	00 420	+23 43	20 51	21 10	1 55E	+2415	FeArc ND 1.10	13-13-13
41987T	Spot Calib for 41983-89, 95.			15 min @ 15V		D4 3900 D3 4300 D2 4810			
41990	HD276247	4h 13.4	+42°04'	21 27	00 13	2 23E	+4223	FeArc ND 1.10	8-8-8
41990T	Spot Calib for 41990 - 94			15 min	15V D3 4810	D1 7V Hd	7V D2 5450		
41991	HD 25487	3h 57.8	+27°51'	0 18	0 41	137 E	+28°11.9	FeArc ND 1.10	8-9-8
41992	HD49521	6h 43.7	+33°21'	0 47	2 20	242E	+33°21.7	"	8-8-8
41993	HD49521	"	"	2 22	353	108E	"	"	8-8-8
41994	"	"	"	354	5 28	027W	"	"	8-8-9
41995	HD31910	4h 54.5	+60°18	5 37	5 57	237W	+60°29	"	14-14-14
41995T	Strip Calib for	41988,89,95			90 sec				
41995F	Focus	Test							5/5

Spectr. Temp. 50°F ..... Dome Temp./Hum. 48°F / 83% Transparency Conditions Excellent

Focus 40-R - 55R

Spectr. Temp. 44°F ..... Dome Temp./Hum. 40°F / 100%

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		40/20	1-2	3.75	G8 III-IV	G12	G12/0.49	9/1.5	IIa0-e	A	Hek Bin-Lg		Weak Fe lines
		40/≈20	"	4.06	K1 IIIp	G12	G12/0.495	9/1.5	"	B	"		weak Fe lines
									"				
		300/75	2-3"	9.5v	ASe+ gGO	G65	G43/0.49	20/1.4	098-02	C	BB eclip. bin.	RW Per	
									"				
		300/75	1-2"	8.0v	A0+G	"	"	20/1.4	"	B	"	RW Tau "	v sl wk
		300/75	2	9.2v	A4p	"	"	20/1.4	"	C	"	RX Gem "	v sl wk
		300/76		"	"	"	"	"	"	B	"	" "	v sl wk
		300/75	1-2"	"	"	"	"	"	"	C	"	" "	
		40/29	2-4"	4.2	G0p	G12	G12/0.49	9/1.9	IIa0-e	A	Ceph Pg	β Cam Focus changed to 55R	weak Fe lines
		no filter							"	B			
						IIa0	6m		20,168				
						098	5m		20,165				

151 2 Tours of 80 each = 2.5 hrs Moon look

Date Oct 22/23 Sat Sun Observers B.K.-T.N.

Emulsion Batches: Ila O-E 20077 - 19107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
41996	HD 194093	20 18.6	+39 56	21 19	21 23	2 48W	4 01.7	Fe Arc ND 1.0	20-20
41997	HD 214665	22 34.7	+56 17	21 29	23 40	2 51W	+56 46	Fe Arc ND 1.0	13-15-16
41997T	Spot Cals for 41997			15 min	@ 15V	D4 3900	D3 4300 D2 4810		
41998	HD 3627	0 34.0	+30 19	23 43	1 25	2 35W	+30 48	Fe Arc ND 1.0	14-14

Spectr. Temp. 48°F ..... Dome Temp./Hum. 40°F / 82% Transparency Conditions .... Hazy - high cirrus ...
Thick cloud by 04

Focus .... 45 R .....

Spectr. Temp. ..... Dome Temp./Hum. 38F / 85%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/22	3"	2:9	F8 IV	G12	G12/0.44B	13/1.5	IIaO-e	A	Waterloo		v. sl. str
00/270	3"-6"	6:7	M4 III	"	"	13/1.5	IIaO-e	B	"	cloud at times	fine
							IIaO-e				
00/66	3"	4:6	K3 III	G13	G12/.44B	13/1.5	"	C	"	Thru cloud	fine
				6½" D19	67.5F	18	145				

II 1 Oct 23/24
153 Sun-Mon

Date Oct. [redacted] 1927 Observers Tn.-Pdr.-f.-T.n.....

Emulsion Batches:
U.V.C. ....20077.... 19107
098-02e ....20047.... 20107
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
41999	HD 222107	23 36.4	+45 20	18 05	18 36	03 09E	+46 25	Fe Arc NO 1.10	14-16-14	200/210
41999T	Spot Cal'n for 41999	42001		15 min @ 15V		D4 3900	D3 4390 D2 4810			
42000	HD 4502	00 42.0	+23 43	18 46	19 33	03 22E	+29 14	Fe Arc NO 1.10	15-15-12	230/110
42001	HD 186688	19 40.8	+29 01	19 40	21 16	03 24W	+29 19	Fe Arc NO 1.10	15-15-15	440/160
42002	HD 209975	22 02.1	+61 48	21 32	21 55	01 42W	+62 15	Fe Arc UV + none	4-4-4	200/110
42002T	Spot Cal'n for	42002-11		15 min @	15V D3 4810	7V D1 Hα	7V D2 5450			
42003	HD 212097	22 16.7	+27 50	22 06	22 41	2 13W	+28 20	Fe Arc UV	4-4-4	200/105
42004	"	"	"	22 42	23 13	2 44W	"	"	4-4-4	200/104
42005	"	"	"	23 14	23 48	3 19W	"	"	4-4-4	200/105
42006	"	"	"	23 49	00 27	3 58W	"	"	4-4-4	200/102
42007	"	"	"	00 27	01 13	4 44W	"	"	4-4-4	200/102
42008	HD 22468	03 31.6	+0 16	01 20	02 24	0 41W	+00 37	Fe Arc None	4-4-4	200/63
42009	"	"	"	02 26	03 22	1 39W	"	"	4-4-6	400/125
42010	"	"	"	03 33	04 14	2 30W	"	"	4-4-4	400/125
42010T	Spot Cal'n for	42002-11		[illegible] 15 min @	7V D2 5450	7V D1 Hα	15V D3 4810			

Spectr. Temp. 42°F ..... Dome Temp./Hum. 36°F / 87% Transparency Conditions Very good - Photometric 154

Focus 70-R - 75B for G166

Spectr. Temp. ..... Dome Temp./Hum. ..... /.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/210 ?	2"	V= 3.75	G8 III -IV	G12	G12/0.498	9/5	IIa0-e	A	HeKBin Ly	} Too long ? may be best if narrower than 50 reading	fine
200/110	2"	4.06	K1IIIp	G12	G12/490	9/5	IIa0-e	B	HeKBin Ly	↓	fine
200/160	3"	G8-766	F0-G1	G12	G12/.490	13/5	"	C	Ceph-Rm	This Exp seems normal / slit changed to 13 units	fine
200/110	3"	5.19	O9.5Ib	G24R	G166/.388	18/9	099-02e	B	Cyg X-1 Std Bln	written 24 + UV Focus 75B	v sl str written 8 would be better
							098-02e			↓ Focus to 70R	
200/105	3"	4.83	B8V	G16R	G165/0.70	9/5	098-02e	C	Algol Std-2d	UV Filter in 100% H Frosty	fine
200/104	2"-3"	"	"	"	"	"	"	A	"	" no haze thru	fine
200/105	"	"	"	"	"	"	"	B	"	"	fine
200/102	"	"	"	"	"	"	"	A	"	"	fine
200/102	3-6	"	"	"	"	"	"	B	"	" some thin cloud	fine
200/63	3-4	6.68	G0V	"	"	13/5	"	C	RSCVn-Fgi	Console failed red end out of focus	exp fine
200/125	"	"	"	"	"	"	"	A	"		fine/v sl str
200/120		"	"	"	"	"	"	B	"		"
for inf		* Placed in 098 Un Exp Box next to stiff rack					"			One more next page → I guess this is inconvenient to do anyway eh?	

#2

155

Date Oct. 24 Mon. Observers T.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.
42011	HD 22468	03 31.6	+00 16	04 14	05 25	3 42W	+00 38	Fe Arc None	4-4-4	40/12
42012	HD 31910	04 54.5	+60 18	05 33	06 02	2 53W	+6029	Fe Arc ND 1.10	15-16-15	40/29

Oct 24 1977

74" primary mirror aluminized

Spectr. T
Focus ...
Spectr. T

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .. getting.. SL.. hazy.....

Focus .....70R.....

Spectr. Temp. ..... Dome Temp./Hum. 35°F / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
700/12	3"-6'	6.68	GOV	G16R	G16/0.708	13/15	098-02e	C	RSCVn	red end out of focus	okay fair
40/29	2"	42	GOp	G12	G12/0.498	9/9	IIaO-e	B	Ceph Py		
					IIaO 6½" D19 67.5F 19 157						
					098 5" D19 68°F 26,176 27,196						

157

Emulsion Batches:
IIa O-e 20077 - 19107
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Date OCT 25/26 1955/WED Observers But-Tu

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42013	HD 77256	06 32.6	+27° 53'	01 49	0400	0040E	+27 57	FE ARC ND 1.1	14-14-1
42013T1	Spot calib for	42013 - 14			15 min @ 15V	D4 3900	D3 4300	D2 4810	
42013T2	Strip Calib for	42013 - 14			90sec	23 30.7			
42014	HD 84441	09 40.2	+24 14	04 16	04 27	0428E	+24 00	Fe Arc ND 1.1	14-14-1
42014T1	098 Test, batch 20097 - 24107		1 D2 Hα 4m		7V 23	187			
T2	"	"	2 D2 Hα 4m		7V 28	241			
T3	" batch 30097 - 24107		3 D2 Hα 4m		7V 28	256			

Spectr. Temp. 52°F Dome Temp./Hum. 52F / 96% Transparency Conditions Clear by 01:30 sl hazy

Focus 40-R

Spectr. Temp. Dome Temp./Hum. 50° / 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1--/150	1.2	7.26	A3	G12	G120 .490	B1.5	IIaO E	A	Am MR		fine
							IIaO-E				
							IIaO-E				
200/80	2"	3.1	GOpII	G12	612/0.498	B1.5	IIaO-E	C	Ceph-Rm	Getting Foggy not taking chances	fine
				IIaO & 42014 T2 & T3		6½m	D19 68°F	20	73		
				other 098 (T1)		4m					

159

Date Oct 27/28 (Th/Fr) '77 Observers BB-RI

Emulsion Batches:
IIa-O-E 20077-19107
098-02 30097-24107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42015	λ And HD 222107	23 32.7	+45°55	17 :50	18 21	308 E	+46° 26.8	Fe ARC ND 1.1	15-15-15
42016	HD 4502 (S And)	0 42.0	+23°43'	18: 24	19:29	309E	+24° 15.5	"	15-15-15
42016T1	spectral calib for plate	42015 - 18			15 min @ 15 volts	39	D4 ND	D3 4300	D2 4810
42016T2	step calib for plate	42015 - 18			90 sec				
42017	HD222107 (λ And)	23 32.7	+45° 55	19: 35	20:06	122 E	+46° 26	Fe ARC N.D. 1.0	15-15-15
42018	HD222107 "	"	"	20:07	20:37	050 E	"	"	15-15-15
42019	HD276247 (RU Peg)	4h13.4	+42°04'	0:40	3:43	134 W	+42° 19.5	"	8-8-8
42019T1	spectral calib for plate 42019-20				15 min	D3 150 4810	D1 70 H2	D2 90 NO FILTER	
42020	HD 58713 (RY Gem)	7h 21.7	+15°52'	3:58	5 03	012 E	+15°47.2		8-8-8

160

Spectr. Temp. ...54°F..... Dome Temp./Hum...15°C..83% Transparency Conditions ..very hazy... Beautiful Aurora.

Focus .....30.2.....

Spectr. Temp. ...50°F..... Dome Temp./Hum...8°C 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/125	2-3	3.75	G8 III / K2	G-12	C-12/1.45	9/1.5	IIaO-E	A	H&K bin Ly		fine
200/125	3-4	4.06	K1 III p	"	"	"	"	B	"	P.H. top cone loose in spectrum grating	fine
							IIaO-E				
							IIaO-E				
200/128		3.75	G8 III / K2	G-12	G12/1.490	9/1.5	IIaO-E	A	H+K Bin -Ly	BROKEN 2 PIECES	fine
200/127		"	"	"	"	"	"	B	"	Clouds	
200/100	4	9.5v	A5e+ gG0	G65	G43/0.49	20/1.4	098-02E	B	BB eclip. bin.	Clearing	fine
							098-02E				
200/80		8.5v	A2e+ K2	G65	G43/0.49	20/1.4	"	A	"	Clouds	fine
										cloud up done	
										dripping wet	
				098 02 IIaO	6 1/2 m	Dig 680	29 20	240 178			

161

Date 08:29:1977 Observers Ly-Ri-Rg

Emulsion Batches:
IIaO:E 20097-27107
098-02 E 30097-24107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42021	HD222107 (λ And)	23 32.7	+45° 55'	17:52	18:09	03 17E	+46 24	Fe ARC ND 1.1	15 15-15
42022	HD4502 (5 And)	0 42.0	+23° 43'	18:14	19:06	03 20E ?	+24°13	Fe ARC ND 1.10	15-15-15
42023	HD10260	01 35.2	+60 32	19:20	20:01	03 27E	+61° 00'	Fe ARC ND 1.10	15-15-15
42024	HD175436 (δ Lyr)	18 50.2	+36° 51	20:18	20:33	03 52W	+37° 02'	Fe ARC ND 1.10	15-15-15
42025	HD212097 (32 Peg)	22 16.7	+27° 50'	20:51	21:16	01 07W	+28 18	Fe ARC UV. Filter	4-4-4
42026	HD209975 (19 Cep)	22 02.1	+61° 48'	21.32	21:52	01 58W	+62 14	Fe ARC UV. Filter	4-4-4
42026T1	spot cal for plate	42021-24, 29, 33			15min	15 volts	D4 D3 35ma 43ma	D2 4810	
42026T2	other cal for plate	42021-24, 29, 33				90sec			
42026T3	focus test							Fe ARC UV Filter	D-10
42027	HD4174 (EG And)	00 39.1	+40 08	22 06	23:28	00 57W	+40 37	Fe ARC UV Filter	4-4-4
42028	HD224085	23" 49.9	+28° 06	23:42	01:44	04 03W	+28 32	"	4-4-4
42028T1	spot cal for plate	42028-27,			15min	D3 15V 4810	D1 74 H2	D2 7V 5450	
42029	HD40365	03 11.5	+49 51	01:59	02:09	01 04W	+50 11	Fe Arc UV Filter	4-3
42030	HD22403	03 31.2	+25 40	02:29	03:04	01 40W	+26 00	Fe Arc ND 1.10	10-10-10
42031	HD58713 (EY Gem)	07 21.7	+15° 32'	03:24	04.22	00 52E	+15°47	Fe ARC ND 1.10	10-10-10

Spectr. Temp. ....53°F..... Dome Temp./Hum. ..10°C...78% Transparency Conditions ..Good.....

Focus .....40R.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
∞/125	2	V= 3.75	G8 III III	G-12	G-12/.490	9/1.5	IIaO-E	A	H+K Bin-Ly	BROKEN 2 PIECES	v sl wk
∞/150	2-3	V= 4.06	K1 III$_p$	G-12	G-12/.490	9/.5	IIaO-E	B		Clouds for Part.	v sl wk
∞/139	2-3	5.56	B3	G12	G-12/.490	13/.5	IIaO E	A	ApSi-Ly		fine
∞/120	2-3	5.4	B3	G12	G12/.490	13/.5	IIaO-E	B	Sp Bin-Ly		fine
∞/205	2-3	4.83	B8V	G16R	G16/700	9/1.5	098-02E	A	Aged 20-28	UV Filter IN WRATTEN #4	
∞/222	3	5.19	09.5Ib	G-24	G16B/.38	18/.9	098-02-E	B	Cyst-Isolation	UV Filter IN Focus IN R	fine
							IIaO E				ambiquous no. 9
							IIaO-E				
				G-24	G16B/.32	9/	098-02-E	A		Focus TEST G24R	center sl to blue
∞/100	3	V= 7.3	gM2e	G-24	G16B/.38	13/.5	098-02-E	B	Sp Bin-Ly	UV Filter	v sl wk comp str
∞/139	3	8.30	K0	G-24	G16B/.38	13/3	098-02 E	A	H+K Bin-Ly	removed without dumb slide	black discarded
							098-02E				
∞/52	3	5.1	B3	G16B	G16B/.38	18/.4	IIaO-E	B	B STD UEL	WRATTEN 4 OUT	v sl str.
∞/52	3-4	V= 2.0	G0	G-05	G43/.490	13/5	098-02E	A	H+K Bin-Ly	focus not reset after G16B WRATTEN 4 IN	fine
∞/80		8.5$_v$	A2e +K2	G-05	G43/.490	20/.4	098-02E	B	Sp Bin-Ly		fine

163

#2

Date 09/29/1977 Observers Ly-Ri-Rg

Emulsion Batches:
IIaO-E 20077-07107
098-02E 30097-24107

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp Mtr.
42032	HD 62044 (5 Gem)	07h 37.1	+29° 08'	04:30	04:47	00 42E	+29 01	Fe ARC NO FILTER	4-4-4	4/140
4203291	spot calc for plate				15min 7 Volts	D1 H2	D2 H2	D2 H2 (15min)		
42033	HD 37479 (6 Ori E)	05 33.7	-02 39	04:59	06:10	02 44W	-02 30.5	Fe ARC ND=1.10	14-14-14	4/143

Spectr. Te
Focus
Spectr. Te

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions Good

Focus 402R

exposed Bin #045

Spectr. Temp. 45°F Dome Temp./Hum. 05°C 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4m/140		V= 4.28	K1 III	C-16R	G16R/1.7	9/.5	098-02	A	H+K Bin Ly		fine
400/143	3"	632	B3p	G12	G12/.490	13/.5	IIaO E	B	Bp Bln	BROKEN 2 PIECES lovely field DAWN	Large piece lost
								30 273			
				098 6'½"				31 279			
				IIaO 6'½"	Dig	68°F					
								15 175	or 20, 182		

Date Sat.Sun. Oct. 29 - 30, 1977 Observers Pilz (Neufeld) - Ri

Emulsion Batches:
IIaw-E 20077 - 28107
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42033F1	focus test		out of/ in					Fe ARC NO FILTER	5-5
42034	HD 222107 (λ Aqr)	23h 32.7	+45° 55	17.53	18.16	03h04E	+46° 23	Fe ARC N.D 1.1	15-15
42035	HD 216461	22 05.5	+14 07	18 27	19 39	0 13 E	+14° 36	Fe ARC N.D 1.10	14-14
42036	HD 218321	23 02.5	+20 03	19 44	21 38	0 48W	+20° 32	Fe ARC N.D 1.10	14-14
4203671	spot calib for plates	42034-42			15mm @ 15 Volts		D4 3900 D3 4300	D2 4810	
42036T2	strip calib for plates	42034-42			90 sec				
42037	HD 6288	00h 58.7	+00° 50	21 42	22 16	0 36 E	+01° 19'	Fe ARC N.D 1.10	14-14
42038	HD 11092	01h 44.0	+64° 22'	22 25	23 59	0 25W	+64° 46'	Fe ARC N.D 1.0	13-13
42039	HD 22912	03h 35.7	+71° 18	00-04	01.33	0h06W	+71° 35	Fe ARC N.D 1.1	13-13
42040	HD 28033	04h 20.4	+21° 14	01 44	03 24	1 15W	+21° 27	Fe ARC N.D 1.1	13-13
42041	HD 36044	05h 23.8	+29° 29	03 26	05 04	1 52W	+29° 35	Fe ARC N.D 1.10	13-13
42042	HD 71663	08h 23.5	-2° 11'	05 08	06 11	0 03W	-02° 21	Fe ARC N.D 1.10	14-14

Spectr. Temp. .....50°F..... Dome Temp./Hum. 9°C.....80%..... Transparency Conditions ..very good.....

Focus .....40R.....

Spectr. Temp. .....44°F..... Dome Temp./Hum. 04°C....87%..... exposed #2

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						9	IIaO-E	B		center sl to blue	ok
200/127	2-3	V= 3.75	G8 III IV	G-12	G-12/.490	9/.5	IIaO-E	A	H+K Bm Ly		
400/2500		7.4	K1 III	G-12	G-12/.490	13/.5	IIaO-E	B	Waterloo		v sl wk
90/ ~220		7.7	K0 III	G-12	G-12/.490	13/.5	IIaO-E	A	-11-		fine
							IIaO-E				antiquous ne.?
							IIaO-E				
100/150	2-3	6.4	A8 III	G-12	G-12/.490	13/.5	IIaO-E	B	Waterloo		
90/240		8.5	K5 Ia0	G-12	G-12/.490	18/.5	IIaO E	A	Waterloo		v sl wk
90/241		7.9	K0 III	G-12	G-12/.490	18/.5	IIaO-E	B	Waterloo	BROKEN 4 PIECES	
100/220		7.8	F8	G-12.	G-12/.490	18/.5	IIaO-E	A	"	BROKEN 2 PIECES	
90/220	3-4	7.94	B5	G-12	G-12/.490	18/.5	IIaO-E	B	"		fine
100/180	3-4	6.57	F0	G-12	G-12/.490	13/.5	IIaO E	A	"		fine
										DAWN	
					6½m 219 68°F						

167

Date Sun. Mon. Oct 30-31, 1937 Observers Zd-Ri./Ri.....

Emulsion Batches:
098-02 . . 24047 - 29107
127-05 . . 00095 - 21107
(coil contam.) 127-05* . . 00095 - 26087

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr
42043	HD 212097 (32 PEG	22h 16.7m	+27°50'	17:50	18:15	01m 46E	+28 18.6	Fe arc UV filter	4-4-	200/106
42044	"	"	"	18:17	18:54	01 09E		"	4-4-	149/151
420441	spot calc for plates	42043-48, 52			15min	D3 150 4810	D1 70 H2	D2 5450		
42045	HD212097 (32 PEG)	22h 16.7	+27°50'	18:55	19:35	00 27E	+28° 18	Fe ARC UV FILTER	4-4-	150
42046	HD212097 (32 Peg)	"	"	19:36	20:18	0015 W	"	"	4-4-	200/150
42047	HD 212097 (32 Peg)	"	"	20:19	20:57	0054 W	"	"	4-4-	5
42048	HD212097 (32 Peg)	"	"	20:58	21:29	0127 W	"	"	4-4-	151
42049	HD 19356 (β Per)	03h 01m 40s	+40°34	21:36	21:52	02 55E	+40°57	"	9-7-	178
42050	"	"	"	22:00	22:20	0225 E	"	"	9-9-	205
420501	spot calc for plates	42049, 51, 53, 57, 59			15min @ 7.5 Volts		D4 5100	D2 H2 D3 5450		
42051	HD 19356 (β PER)	03h 01.7	+40° 34	22:30	22:51	0155E		"	9-9-	400/127
42052	HD 21242 (UX Ari)	03h 20.5	+28°22	22:57	23:48	0115E	+28°44'	Fe ARC NO FILTER	4-4-	
420521	spot calc for plates	42050, 54, 55, 58, 60,			15min @ 7.5 Volts		D4 5100	D2 H2 5450 D3		
42053	HD 19356 (β PER)	03h 01.7	+40°34'	23:51	00.09	00°35E	+40°56	Fe ARC UV FILTER	9-7-	174
42054	"	"	"	00 20	00:44	00 00	+40° 56	"	9-9-	173

Spectr. Temp. 50°F ..... Dome Temp./Hum. 08°C ... 65% Transparency Conditions .. stellar .....

Focus ... 40R .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/106	2	4.83	B8V	G16R	G16/1700	9/5	098-02E	A	Algol Std-2d	UV FILTER IN	fine
200/151		"	"	"	"	9/7	"	B	"	"	"
							"				
200/150		"	"	"	"	9/7	"	A	"	"	light struck
200/150	2-3	"	"	"	"	9/7	"	B	"	"	
200/151		"	"	"	"	9/7	"	A	"	"	
200/151		"	"	"	"	9/7	"	B	"	"	
210/178		2.2V	B8V	"	"	9/9	127-05E	A	Algol-2d	"	fine
210/205		"	"	"	"	9/9	127-05E*	B	"	"	v sl str
				"	"		127-05E			1st filter [illegible]	
210/180		2.2V	B8V	"	"	9/9	127-05E	A	"	"	fine
400/127		6.5V	G5	G16R	6"/200	13/1.5	098-02E	B	RSCvn-Eqi	UV FILTER OUT	
							127-05E*			"	
210/174		2.2V	B8V	"	"	9/9	127-05E	A	Algol-2d	UV FILTER IN	
210/118	2	"	"	"	"	"	127-05E*	B	"		

169

Date . Oct. 31. 1977 .... Observers .... RI .....

Emulsion Batches:
098-02 . 24047 - 2910.7 ..
127-05 . 00095 - 2110.7 ..
127-05* (oil contamin.) . 00095 - 26087 ..

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42055	HD 19356 (β PER)	03h01.7	+40° 34	00:50	01:09	00h25W	+40°56	Fe ARC UV FILTER	9-9-9
42056	HD 22468	03h 31.6	+00° 16'	01:16	01.51	00h38W	+00° 35'	Fe ARC NO FILTER	4-4-4
42057	HD19356 (β PER)	03h01.7	+40° 34	01:58	02:20	01h36W	+40° 58	Fe ARC UV FILTER	9-18
42058	"	"	"	02:30	02.55	02h11W	"	"	9-9-9
42059	"	"	"	03.05	03.33	02h49W	"	"	9-9-9
42060	"	"	"	03:36	04:05	03h22W	"	"	9-9-9

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions excellent

Focus ..... 40 R .....

3:15 fog moving clouds from the S.E.

Spectr. Temp. ..43°F..... Dome Temp./Hum. ...4°C.....100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/206	2	22V	B8 I	G-16 R	G16/1.700	9/.9	127-05*	A	Algol-2d	UV FILTER IN	
40/126	2	6.68	G0 I	"	"	13/.5	098-02 E	B	RSCVn-fg1	UV FILTER OUT	
40/172		22V	B8 I	"	"	9/.9	127-05 E	A	Algol-2d	UV FILTER IN	
40/194		"	"	"	"	9/.9	127-05*E	B	"	"	
40/150		"	"	"	"	9/.9	127-05E	A	"	" clouds	
40/120		"	"	"	"	9/.9	127-05E*	B	"	" "	
				127-05	5m D19	68°F	22 269 34 301	*			
				098-02	6 1/2m		28 208				

171

Mon / Tues

Date 23 Nov 1977 Observers ... Bw - Ri

Emulsion Batches:
IIaoE 20077 - 28107
IIaoE 20077 - 31107

Plate No.	dup no. Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42060A	HD 208825	21 53.9	+46 23	17 47	19 13	00 21 E	+45° 50'	Fe ARC ND 1.10	14/4-1
4206091	spot cal for plate	42060 - 62			15 min @ 15 Volts		D4 3500	D3 4300	D2 4810
4206092	step cal for plate	42060 - 62				90 sec			
42061	HD 217695	22h 57.4	+47° 24'	19 17	21 27	00 50 W	+47° 56	Fe ARC ND 1.10	14-14-1
42062	HD 222107 (X AND)	23h 32.7	+45° 55	21.35	22 03	00 49 W	+46° 24	Fe ARC ND 1.10	15-15-1
42063	HD 4502 (X AND)	0h 42m.2	+23° 43'	22 12	22 46	00 25 W	+24.15	Fe ARC ND 1.1	15-15-1
4206371	spot cal for plate 42063 - 65.			15 min	@ 15 Volts		D4 3500 D3 4300	D2 4810	
4206372	step cal for plate 42063 - 65.				90 sec				
42064	HD 17330	02 41.8	+29 17	22 56	00 09	00 13 E	+29° 41	Fe ARC ND 1.1	14-14-1
42065	HD 22860	03 35.2	+28 33	00 12	02 18	01 02 W	+28° 44	Fe ARC ND 1.10	15
~~42066~~	~~HD 38817~~	~~05h 43.4~~	~~+43° 59~~	~~02 27~~	03 05		~~+44° 05'~~	Fe ARC ND 1.10	14

Spectr. Temp. 48°F Dome Temp./Hum. 09°C 70% Transparency Conditions some thin cirrus clouds around

Focus 50R

Spectr. Temp. 47°F Dome Temp./Hum. 5 C 90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40m/150	2	7.39	A0	G-12	G-12/.490	13/.5	IIaO-E	A	Ap MR		fine
							IIaO-E				
							IIaO-E				
40m/150		7.50	A0	G-12	G-12/.490	13/.5	IIaO-E	B	Ap-MR	CLOUD	fine
20m/127		3.75	III-IV	G-12	G12/.490	9/.5	IIaO-E	A	H+k Binky		
20m/150		4.06	K1 Ip	G-12	G12/.490	9/.5	IIaO-E	B	"		fine
							IIaO-E		.	Spool Box #2 for 4x5 plates ovation	
							IIaO-E				
30m/150		7.17	B9	G12	G12/.490	13/.5	IIaO-E	A	Ap-MR		fine
40m/150		6.81	B9	G12	G12/.490	9/.5	IIaO-E	B	"	CLOUD	fine
40m		7.51	A1	G-12	G12/.490	13/.5	IIaO-E	A	Am-MR	CLOUD!!	
					7m D19 68°F		20 15m 21 19m				

173

Tues/Wed

Date NOV. 1/2 MONTAUES. TT Observers But. R.i.....

Emulsion Batches:
II.a.O-E 20072 - 31107
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42066	HD 21142	03 19.7	+12 09	22:45	00 50	00 05 E	+12° 29	FE ARC	14-14 14
42066T1	spectral fr plates 42066-69				15min @ 15 Volts			D4 3900 D3 4300	D2 4810
42066T2	spectral fr plates 42066-69				90 sec				
42067	HD 51418	06"52.2	+42 26'	00 56	02 10	02 18 E	+42 25	FE ARC NO 1.10	15-15-1
42068	HD 38817	05"43.1	+43° 59	02 14	04 12	00 53 W	+44° 04'	"	14-14
42069	HD 76003	10 59.3	+13 12	04 19	06 14	02 17 E	+12° 52	"	15-15-1

Spectr. Temp. 52°F Dome Temp./Hum. 10°C 95% Transparency Conditions hazy

Focus 40-R

Spectr. Temp. 50°F Dome Temp./Hum. 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/151		7.6	AC	G-2	G12/490	13/.5	IIaOE	A	Am MR		fair
							J-aOE				
							II-aO-E				
400/150	2-3	6.61	AO	G-2	G12/490	9/.5	IIaOE	B	Ap - MR		fair
400/150		7.51	A1	"	"	13/.5	IIaO-E	A	Am - MR		
400/120	3-4	6.75	A	"	"	9/.5	"	B	Ap - MR	BROKEN 3 PIECES	v sl wk
										DAWN	
				7" D19	68°F .20	1.76					

175

Date Nov 2/3 Wed/Thurs Observers Rm.-Tn.-K.K.....

Emulsion Batches:
IIaO-e 20077-31107
IIIaJ-e 01126-13107
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
42070	HD31810 = β Cam	4h 54.5	+60° 18	23:59	0:23	2:05E	+60 30	Fe Arc ND1.10	15-15
42071	HD 6582	1 1.6	+54 26	0:32	1:55	3 21W	+54 54	Fe Arc ND1.10	14-14
42071T	Spot Calib for 42070-71			15 min @ 15V		D4 3900	D3 D2 4300 4810		
42072	HD 47105	6 31.9	+16 29	2:07	2 38	1:27 E	+16 29	Fe arc none	10-10
42073	HD 47105	6 31.9	+16 29	2:39	2 47	1:48 E		Fe arc none	7-7
42074	HD 47105	"	"	2:49	2-56	1 07E		Fe arc	7-7
42074T	Spot Calib for 42073-74,76			15 min @	25V	D2 4810	D3 4300 D4 3900		
42075	Jupiter			3 09	3 13			Fe Arc none	10-26
42076	HD 76644	8 52.4	+48 26	3 27	3 40	2 46 E	+48 10	Fe Arc none	7-7

Spectr. Temp. 53°F Dome Temp./Hum. 54°F / 99% Transparency Conditions ... Thin Thick Cloud 17%

Focus ... 40-R

Spectr. Temp 54°F Dome Temp./Hum. 53° / 100+

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/150	2"	4.2	Gopt	G12	G12/.490	9/1.5	IIaO-e	A	Cepheid/Eclipse		fine
200/77	2"	5.8	G5Vp	G12	G12/.490	13/1.5	IIaO-e	B	Asm-Sp/KKC		black!*
							IIa0-e				
200/260		1.9	AOV	G24	G12/.490	13/1.5	HSI	A	Asm-Sp/KK	Wr 8 filter guided on est IR part of image	sl wk
200/300		1.9	AOV	G12	G12/.490	13/1.5	IIIaJ	B	"		fine
40/60		"	"	G12	G12/.490	9/1.5	IIIaJ	A	"		vsl wk
											ok
40/70				G24	"	13/1.2	HSI	B	Test	Wr 8	vsl wk
40/60	1-2'	3.2	A5	G12	"	13/1.5	IIIaJ	A	Asm-Sp/KK	"	sl wk
				IIIaJ	5m		.17 2.58				
				IIa0	6½m	V 7 68°F	.20 1.86				
				HSI	10m						
			*	Spectrum	reversed due to	Sabattier	effect	from red sunlight — house plate is 098?			

177 Big Fireball reported during afternoon ~ 2:45 PM E→W
We may have seen "reversed cloud" in SW at Sundown.

Date Nov 4-5 Fri-Sat Observers B.M.-T.N.-R.G. (Taurid Meteor Shower Max)

Emulsion Batches:
IIaD-c 20077 - 02117
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42077	HD 191610	20 05 43	+36° 33'	17:36	17 58	0 28 W	+36°56'	Fe Arc ND 1.0	14-28
42077T	Spot Calib for 42077-	81			15 min @ 15V	D4 3900	D3 4300 D2 4810		
42078	HD 209975	22 02.1	+61 48	18 06	18 30	0 57 E	+6217	Fe Arc ND 1.0	13-13-13
42079	"	"	"	18 33	19 10		"	"	13-13-13
42080	"	"	"	18 11	20 23	0 58 W	"	"	13-13-13
42081	HD 27192	04 12.6	+50 41	22 57	00 07*	01 32 E	+50 59	Fe Arc ND 1.0	14-14-14

Spectr. T
Focus...
Spectr. T
Exp. Mtr.

Spectr. Temp. ~~30-R~~ 57°F Dome Temp./Hum. 55°F / 88% Transparency Conditions Clearing from N 178
Then cloud from S

Focus ~~57°F~~ ~~30-R~~

Spectr. Temp. 51°F Dome Temp./Hum. 47F / 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
80/42	3-5	4.82	~~B3V~~e	G12	G12/0.498	13/1.9	IIaO-e	A	Sp. Bin-Blu		fine
200/102	3"	5.19	~~09-I~~b	G12	G12/0.498	18/1.9	IIaO-e	B	Cyg X-1 std		fine
200/95		"	"	"	"	"	"	A	"	Cloud	fine
200/103		"	"	"	"	"	"	B	"		fine
200/74	2-3	5.50	B2 IV	"	"	13/1.9	"	A	SB2-Blu	*Est of Fraalistic end! Thin cloud-thick	v sl wk

6'½" Dig 69°F

179

Sun / Mon

Date Nov. 13/14 1977 Observers KK-Lg-Tm

* Duo-e 20077-02117
Tri a J-e 01126-13107

Emulsion Batches:
H.S.I.
II a O-e 20077 - 31107
098 - 20097 - 04117

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42082	HD 215182	22 38.3	+29 42	17:38	17:50	01 38E	+30 13	Te arc	10-
42083	"	"	"	18.03	18 11	01 17E	"	Fe arc ND	10-15-
42083T	Spot Calc for	42083-84, 86		15 min @	15V D4 3400	D3 4300	D2 4810		
42084	HD 222107 (λ Aqr)	23 32.7	+45 55	18 23	18 50	01 31 E	+46 26	Fe Arc ND 1:1	20-20-20
42085	"	"	"	18 57	19:13	01 08 E	"	Fe Arc ND 1:1	5-5-5
42086	"	"	"	19:21	19 52	00 29 E	"	Fe Arc ND 1:1	15-15-15
42086T	Spot Calc for	42085		15 min @	15V D3 4810	7V D1 Hα	7V D3 5450		
42087	HD 4502 (5 Aqr)	00 42.0	+23° 43'	20:00	20 36	00 [illegible] E	+24 [illegible]	Fe Arc ND 1:10	15-15-
42087T	Spot Calc for	42087, 91		15 min @	15V D4 3400	D3 4300	D2 4810		
42088	HD 222107	23 32.7	+45 55	20:41	21:10	00 47 W	+[illegible]	Fe Arc None	10-10-
42089	HD 1326	0 12.7	+43 27	21:19	22'03	01 03 W	+43 58	Fe Arc ND 1:10	10-
42090	HD 1326	"	"	22:07	22:55	01 55 W	"	"	0-10-10
42091	HD 6582	01 01.6	+54 26	23:04	0:25	02 33 W	+54 54	Fe Arc ND 1:10	13-13-13
42092	HD 37962	05 33.7	-2° 39'	00:33	01:43	00 39 E	-2° 31'	Fe Arc None	7-7-
42092T	Spot Calc for	42092		15 min @	15V D4 4100	D4 4300	D4 4810		

Spectr. Temp. 32°F ..... Dome Temp./Hum. 30°F / 66% Transparency Conditions Scattered clouds 180

Focus ..... 80-R .....

Spectr. Temp. ..... Dome Temp./Hum. ..... / .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
80/102	2"-3"	3.8	G8 II + F	G24	G12/.49 B	13/1.5	HSI	A	Asm-Sp KK	Wratten #4 in	fine
80/70	"	"	"	G8	G16R/1.25B	13/1.5	IIaOe	B	"	Try Till = .2 B	fine
							IIaOe	A			
80/55	3"	3.75	G8 III	G8	G8B/-25B	9/1.5	IIaOe	A	H+K Bin-2y		fine
80/36	3"	"	"	G16	G16R/+.7B	9/1.5	098-02e	B	"	big fog	
80/66	3"	"	"	G12	G12/.49	9/1.5	IIaOe	A	"		fine
							098-02e			hazy fog	fine
80/70	2-3"	4.6	K1 III p	G12	G12/.49	9/1.5	IIaO-e*	B			
placed in HSI Box							"				
80/101	2"	3.75	G8 III	G24	G12/.49	13/1.4	HSI	A	"	Wratten #4	
80/40	2-3"	1-8.1	M1V	G65	G12/.49	13/1.5	098-02	B	Asm-Sp KK	Wratten #4 heat fog	fuzzy!
80/15	"	"	"	"	"	"	"	A	"	" cony clouds	fuzzy!
200/300	3"	8-5.4	G5 V p	G12	G12/.49	15/1.5	IIaOe*	B		Cloud	sl scr
200/250	2"	3.51	G9 V	G12	G12/.49	13/1.5	IIa-JE	A	Sp. Bin-Blu	Cloud	
							IIaJE				

18

Emulsion Batches:

Date .. Nov. 19 .. 77 ..... Observers .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
A2092F1	Focus test							Fe arc	10
F2								"	20-20
F3								"	20-20
F4								"	10

Spectr. Te
Focus ...
Spectr. Te

Exp. Mtr.

Spectr. Temp. 32° F ..... Dome Temp./Hum. ..... Transparency Conditions 192

Focus ..... 80.R .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				G-65	G43/.49		IIaF	B		Written 4 in beam	sl fuzzy
				"	"		"	"		"	center red blue
				"	"		"	"		Written 8 before slit	"
				"	"		"	"		"	sharp
					HST 10m 69°						
					IIaO 6½m 68°			20	190 new		
								21	177 old		
					IIIaJ 5m 68°		D19	18	257		
					IIaF 5m 68°			.20			
					098 5m 68°			37	194		

183

Emulsion Batches:
IIaJ 01126-13107

Date 10.1.17.171 Observers

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
42092 T2	Spot Cal			27	D4 4303	D4 4m 4300	D4 8m 4300		
T3	Strip Cal					4m			
T4	Spot Cal					2m			
T5	Strip					1m			
T6	Spot			37	D3 1210	10 min			
T7	Strip					2m			

Spectr. Temp. ..... Dome Temp./Hum. 42°F / 77% Transparency Conditions 184

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							IIIaJ-e				strong
							IIIaJ-e			#3	
							IIIaJ-e			#4	good
							IIIaJ-o				
							IIIaJ-o				strong
							IIIaJ-o				
				5m Dig 60°F							

185

Emulsion Batches:

Date NOV 17/18 THUR/FRI 11 Observers But-Pi

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
42093	HD 21142	03 19.7	+12 09	2300	0026	0033 W	+12 09'	FE A-C NL L1	14-21	-/56
42093T1	spectral cal for plate	42093			15 min @ 15 Volts	D4 3500	D3 4500	D2 4810		
42093T2	step cal for plate	42093			done					

Spectr. T
Focus...
Spectr. T

Spectr. Temp. 42°F ..... Dome Temp./Hum. +02°C 98% Transparency Conditions 186

Focus ..... 6.8 .....

Spectr. Temp. 42°F ..... Dome Temp./Hum. +2°C .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/56	3·1	7.6	AC	G12	G12/[illegible]	13/.5	IIaoE	A	Am NA	CLOUD	slwk
				7m D19	68°F	20	183				

187

Date NOV. 19/20. 1977 Sat/Sun Observers Za-Li

127 Emulsion Batches:
~~IIIa-F~~ 00095-21107
IIIa-F

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42094	HD 19356 (B Per)	03h 01m 40s	+40° 34'	01 01	01 35	2 07W	+40°57	Fearc UV	9-9-9
42095	"	"	"	01 47	02 23	2 54W	"		9-9-9
42095T1	spoil coal for plate	42094-95			15min	3.5W		D4 K1m D2 H2 D3 S450	
				02 25				Fearc not filter	5·

Spectr. Temp. 38° F Dome Temp./Hum. 1°C 98% Transparency Conditions 188

Focus 70. R

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/203	2"-3"	2.2v	B&I	G16 R	G16/700	9/9	IIIaF-c	A	Algol-Zd	UV FILTER IN	fine
40/208	"	"	"	"	"	"	"	B	"	BROKEN 2 PIECES	fine
							IIaF-E				broken
40/							IIaF-E	A	—	Andelin	
				5m D19	68°F		26 269				

189

Emulsion Batches:
~~Tav-F~~.....
.....
.....

Date Mon. Tues. Nov. 21-22 1977 Observers ..... Bud-Ric-Cy.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42096	HD 217695	22h57.4	+47°24	17:27	20:09	00h54w	+47°55	Fe ARC N.O 1.10	14-14-14
4209691	spot cals fm plate	42096-98			15 min @ 15 Volts			D4 3900 D3 4300 D2 4810	
42097	HD 17330	02h41.8	+29°17'	20:16	22 23	0036 E	+29°38	Fe ARC N O 1.10	14-14-14
4209791	step cal fm plate	42096-98			90 sec				
42098	HD 21142	03h19.7	+12°09'	22:31	02 19	02 42 W	+17°29	Fe ARC NO 1.10	14-14-14
~~42099~~	~~HD 41254~~	~~06h32.6~~	~~+12°53'~~	~~02 36~~				"	14-

Spectr. Temp. ...46°F..... Dome Temp./Hum. ...6°C/...52%... Transparency Conditions ...Cirrus.....

Focus .....60R.....

Spectr. Temp. ...35°F..... Dome Temp./Hum. ...0°/.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1400/150	5"	7.50	A0	G-12	G12/.490	13/.5	IIaO-E	A	Ap-MR		fair
							IIaO-E				
1400/151		7.17	B9	G-12	G12/.490	13/.5	IIaO-E	B	Ap-MR		fair
							IIaO-E				
1400/152	5-10"	7.60	A0	G-12	G12/.490	13/5	IIaO-E	A	Am-MR	CLOUD	fair
	~~4"~~	~~7.26~~	~~A3~~	G12	"	"	"		~~Ap-MR~~	MUCH CLOUD.	
				6½" D19	68°F	20	172				

191 G. Group ~20 persons look at the moon ~1h.

Date 22/23 NOV. 1977 T.V.N. Observers Zd-Ri

Emulsion Batches:
IIaO-E 20077-22117
IIaJ-E 10126-17117

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
42099	HD 14633	02 16.7	+11 02	00:13	01:42	3h 10m W	+41 26	Feare W.D. 1.1	M-14-1	1/150
							D4	D3	D2	
4209991	spd cal fn plates	42099-102			15 min @ 15 Volts		3900	4300	4810	
4209992	step cal fn plates	42099-102			90 sec					
42100	HD 33328(λ Eri)	05 4.4	−8 53	01:46	02.34	1h 15m W	−8 41	Feare no filter	7-7-	1/50
							D4	D4	D4	
4210091	spd cal fn plates	42100-101			15 min @ 15 Volts		4100	4300	4810	
42101	HD 37468 (σ Ori A)	05 33.7	−2 39	02:40	03:09	1 23 W	−2 31	Feare no filter	7-7-7	1/50
4210191	step cal fn plates	42100-101			180 sec					
42102	HD 34364 = AR Aur	05 11 8	+33 39	03:15	03:58	2 32 W	+33 50	Feare no filter	14-14-	1/50
	~~HD 86590~~	~~09h 54.5~~	~~+25° 02~~	~~04:06~~				NO FILTER	9	

Spectr. Temp. 38°F Dome Temp./Hum. +1°C/90% Transparency Conditions ... good ... 192

Focus ... 70R ...

Spectr. Temp. 35°F Dome Temp./Hum. -1°C/91%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/150	2-3	7.26	08 I	G12	G12/1.490	13/1.5	IIaO-E	A	Sp Bin-Eln		fine
							IIaOE				
							IIaO-E				
202/252	2-3	1 of 13.2 B		G12	G12/1.490	13/1.5	IaJ-E	B	Sp Bin-Bln	clouds	vsl wk
							IIIaJ-E				
00/251	2-3	3.51	09.5 I	G12	G12/1.490	13/1.5	IIaJ-E	A	Sp Bin-Bln		fine
							IIIaJ-E				fine
100/151	2-3	5.82 V	Ap	G12	G12/1.490	13/1.5	IIaO-E	B	Eel-Bi-Bl		fine
3?3/		791	dG-5	G-16	G16/1.700	13/1.5	058-02-E	A	Sp Bi-Bl	clouds/in	vsl stn
				IIIaJ 5m				12 240			
				IIaO T	Dif	68°F		20 183			

193

Thurs-Fri

Date Nov. 24-25/77 Observers BB-Tn

Emulsion Batches:
IIaO-e 20077 - 22117
098-02E 30097 - 34117

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42103	HD 222107 (γ And)	23 32.7	+45 55	19 44	20 23	0 44W	+46 26	Fe Arc ND 1.0	15-15-15
42103T	Spot Calib for	42103, 05-06, 08			15 min @ 15V	D4 3900	D3 4300 D2 4810		
42104	HD 222107	23 32.7	+45 55	20 30	20 51	1 12W	+46 26	Fe Arc None	5-5-5
42104T	Spot Calib for	42104, 07		15 min @	15V D3 4810	7V D1 Hα	7V D2 5450		
42105	HD 222107	23 32.7	+45 55	20 53	21 27	01 48W		Fe Arc ND 1.0	20-20-20
42106	HD 4502 (5 And)	00 42.0	+23 43	21 32	22 22	1 35W	+24 14	Fe Arc ND 1.0	20-20-20
42107	HD4502 (5 And)	"	"	22 24	22 44	1 56W	"	Fe Arc None	5-5-15
42107T	Strip Calib for	42103, 05-06, 08		90 sec					
42108	HD 4502	00 42.0	+23 43	22 55	23 30	2 43W	+24 14	Fe Arc ND 1.0	15-15-15
42108T	Spot Cal. Test new IIIaF (29117 - 25117			) 15 min		D2 Hα 7.5V			
	exp made Nov 28								

Spectr. Temp. 38°F..... Dome Temp./Hum. 35°F./87%.. Transparency Conditions ..Clear..by..19:30..9:57..

Focus .....70-R.....

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
900/170	2-3	V= 3.75	G8III	G12B	G12/0498	9/15	IIaO-e	A	Hck Bin	cloud + haj	
							"				
900/83		V= 3.75	G8III	G16R	G16/0.7B	9/15	098-02e	B	Hck Bin	cloud (Grating tilt changed Cooling) Freed when going to −.25B	VSI STR
							"				
700/150		V= 3.75	G8III	G8B	G16/−.25B	9/15	IIaO-e	A	Hck Bin		fine
750/180	2-3	V= 4.06	KVIIp	"	"	"	"	B	"		
900/65	"	"	"	G16R	G16/.7B	9/15	098-02e	A	"	Cloud Compare with 4204	VSI STR
					IIaO-e						
700/115	2	V 4.06	KIIIp	G8B	G16/−.25B	9/15	IIaO-e	A	"	Cloud Cooling tilt	
				098 5m	D19	66F	31 210				
				IIaO 6½m			19 194			"	
				IIaOF 5m	D19		12 211				

195

Emulsion Batches: 098-02 . 3009.7 - 2.7117

Date 28/29 Nov 1971 : Montes Observers ZA : Tx

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
42109	HD 209975 (19 Sep)	22 02.1	+61 48	17:29	17 59	00 08W	+62 14	Fear none	3-1-1	
42109T	Spot Calib for 42109	42109		15min	@ 15U 48:0	D3 7VD1 4α	7VD2 5450			
	~~HD 209975 (19 Sep)~~	22 02.1	+61 48	18.02			+62 1.4	Fear none	1	

Spectr. Te
Focus ...
Spectr. Te

Spectr. Temp. 27°F Dome Temp./Hum. ~~38°F~~ /80% Transparency Conditions Some cirrus

Focus 63R → +40R.

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300/116	3"	5.1	09.5	G24	~~G1 6E/0.38~~	18/1.9	09802	A	Cyg X-1 Std.	Slight clouds Focus +40R Obs Wrotten ~~Hg~~ + UV	v d str
~~300/~~		5.1	09.5	G24	~~G1 6B/0.38~~	18/1.9	~~09802~~	B	~~Cyg X-1 Std~~ 80	~~Much cirrus~~	
				5"	D19	67°F	22,222				

197

Tues-Wed

Date 29-30 Nov 1977 Observers But-Tn

Emulsion Batches:
IIaO-e 20077-28117
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42110	HD 222107 (And)	23 32.7	+45 55	17 18	18 01	01 12E	+46 24	Fe Arc ND 1.10	V5-15
42110T	Spot Calib For	42110		15min	@15V	D4 3400	D3 4300	D2 4810	
				+18 12			~~+~~	Fe Arc ND 1.10	~~15~~

Spectr. T
Focus...
Spectr. T
Exp Mtr.

Spectr. Temp. ..32°F..... Dome Temp./Hum. 30°F/72% Transparency Conditions Hazy - Cirrus.....

Focus .....80.R..... down from previous 40R

Spectr. Temp. ..... Dome Temp./Hum. 30°F/90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/173	1-2"	V- 3.75	G8 III	G12	G2/1.49B	9/15	IIaO-e	A	He K Bin		fair
400/										CLOUD	
					6½" Dig	68°F	17,178				

Emulsion Batches: IIa-e 20077-2817

Date Dec. 2-3/77 Fri-Sat Observers Ly-T.m.-R.g.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42111	HD222107 (star)	23 39.7	+45 55	17:25	Appox 18 00	01 07E	+46 27	Fe Arc ND 1.10	20-20
42111T1	Spot Calib	for 42111,		15min @	15V	D4 3900	D3 4300 D2 4810		
		(For							

Spectr. T
Focus...
Spectr. T
Exp Mtr.

Spectr. Temp. 37°F Dome Temp./Hum. 34°F / 78% Transparency Conditions ... Clear for ½ hr 200

Focus ... 80-R

Spectr. Temp. ... Dome Temp./Hum. ... /

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/60	3"	V= 375	G8	G83	G16/-25°	9/5	IIaDa	A	HK Binary	cloud - snow *	
→		(for Deq 4/5 4/50)								*	
										* Push both	
			6½" DIg	68°F	20,180						

Date Dec 3-4 1st and 5th Observers EF/KK-TY

Emulsion Batches:
III a Fc 23117-24117
III a J e 01126-17117

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42112	HD 19356 (ε Eri)	03h 01m 40s	-9° 34'	18:32	19:05	3 27 E	+40 57	Fe arc UV/none	9-10-10
42113	"	"	"	19:06	19:40	2 52 E	+40 57.2	"	10-11-11
42114	"	"	"	19 41	20:27	2 05 E	"	"	12-12-6
42115	"	"	"	23 39	00 13	1 40 W	+40 58	"	12-12-2
42114T	Spot Cals for 42112-15			15 min @ 8V	D4 5100	D2 H α	D3 5450		
42116	HD 33328 (ε Eri)	05 04.4	-8 53	00 22	01 21	0 48 W	-8 41	Fe Arc None	8-7-5
42116T	Spot Cals for 42116	-18. 1		15 min @ 15V	D4 4100	D4 4300	D4 4810		
42117	HD 47105	6 31.9	+16 29	01 27	01 41	0 22 E	+16 32	Fe Arc None	8-9-8
42118	HD 76644	8 52.4	+48 26	01 50	02 00	0 27 E		"	8-16

Spectr. Temp. 33 F ..... Dome Temp./Hum. 32°F / 82% Transparency Conditions Some cirrus, but clear 202

Focus ..... B.O.R. .....

Spectr. Temp. 30°F ..... Dome Temp./Hum. 28°F / 93%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/253	3"	22v	B&II	G16R	G16/1.7B	9/1.9	IIIaF	A	Zd-Algol	UV Filter clear slit	fair
30/236	"	"	"	"	"	"	"	B	"		v sl wk
40/277		"	"	"	"	"	"	A	"	s/ cloudy	v sl str
40/250	2"	"	"	"	"	"	"	A	"	(also numbered 14)	fair
							"				#1 v sl str
200/400	2-3'	4.07	[illegible]	G12	G12/1495	13/1.7	IIIaJ-e	B	SE Blg		v sl str
							"				
40/90	2-3	V=192	A0IIIa	G12	G12/1.913	9/1.7	IIIaJe	A	Asn Sp. KK		v sl str
200/36	6"	v-312	A5	"	"	13/1.5	IIIaJe	B	"	after end of 200 - hazy and	Too wk
				IIIaF	5" Dif	62°F	15,242				
				IIIaJ			13 252				

Comparison Type/Filter Exp

203

SUN/MOON

Date Dec. 4/5 77 Observers hg - TN

Emulsion Batches:
IIaD: e. 20077-28117
098.02e. 30077-27117
IIaJ.2. 01126-17117

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42119	HD222107 λAnd	23 ~~38.7~~ 32.7	+45 ~~+46~~ 55 ~~20~~	17 16	17 53	0105E	+46 23	Fe Arc H6 1/10	20-20-5
42119T	Strip Cals for	42119, 23-24,			90sec	also 45s	b/o for #	42111	
42120	HD222107 (λ And)	23 ~~36.4~~ 32.7	+45 ~~+46~~ 55 ~~20~~	17 57	18:17	0042E	+46 23	Fe Arc None	5-5-5
42120T	Spot Cals for	42120 -	22, 25-26	15min @	15V D3 4210	7V D1 Hα	7V D2 5450		
42121	HD209975 (19 Cep)	22 02.1	+61 48	18:30	18:52	01 24W	+62 12	Fe Arc None	4-4-4
42122	"	"	"	18 56	19.26	01 57W	" "	Fe Arc U4	6-6-6
42123	HD4502 (ζ And)	00 42.0	+23° 43'	19:33	20:36	00 26W	+24 12.1	Fe Arc H6 1/10	20-20-20
42124	HD218396 (56 Peg)	23 02.2	+24° 56'	20:42	21:33	0304W	+25 25	"	18-18-8
42125	HD [illegible] (HR 1994)	03 31.6	+0° 16	2208	23:05	00 06W	+00 35.1	Fe Arc H6 1/10	4-3-4
42126	HD33328 (χ Eri)	05 04.4	- 8° 53'	23 09	23:37	00 53E	-08 44	Fe Arc UV	4-4-4
42127	"	"	"	23 40	01:20	0050W	"	Fe Arc None	6-6-6
42127T	Spot Cals for 42127	-30		15min @	15V D4 4100	D4 4755	D4 4810		
42127T2	Strip Cals for 42127-29				1:30 secs				
42128	HD37482 (ω Tau HR)	05 33.7	-02 39	01:22	01:46	0045W	-02 32	Fe Arc None	7-7-7
42129	HD33328 (χ Eri)	05 04.4	-08 53	01:49	02 53	2 22W	-08 44	"	7-13

Spectr. Temp. 30°F Dome Temp./Hum. 25°F / 60% Transparency Conditions Excellent

Focus 810-R

Spectr. Temp. ____ Dome Temp./Hum. ____ / ____

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/145	2"	V= 3.75	G8III	G8B	G16R/-.38B	9/.5	IIaO-e	A	Hγ Hδ Bln-Ly		fine
			foye blur				"				
200/78	3"	V= 3.75	G8III	G16R	G24R/.78B	9/.5	098-02e	B	"		fine
							"				
200/105	2"	5.1	09.5	G16B	G24R/.38B	18/.8	098-02e	A	CygX-1 Std	old WRAPTEN 4	fine
200/48	"	"	"	"	"	"	"	B	"	WRAPTEN 8 AHEAD OF SLIT & Fe	v. str
200/180	3"	V= 4.06	K1III$_{17}$	G8B	G8B/-.23B	9/.5	IIaO-e	A	Hδ K Bln Ly		
200/130	2-3	6.14	K0Ib$_{sp}$	G8B	G8B/-.25B	13/.3	IIaO-e	B	Hγ K *-Ly		
200/98	"	6.68	G0V	G16R	G16/.07B	13/.5	098-02e	A	RSCVn-FQT		fine
200/105	2"	4.07	B2IV	"	"	13/.5	098-02e	B	SB-Bln	UV filter	fine
200/400	2-3"		"	G12B	G12/.04B	13/.7	IIIaJ-e	A	"	clear thin cirrus thru clear	v. wk
200/240	2-3"	3.51	09.5V	G12B	G12/.04B	13/.5	IIIaJ-e	B	SB-Bln		fine
200/87	3-5	4.07	B2IV	G12B	G12/.04B	13/.5	IIIaJ-e	A	SB-Bln	thick thin cirrus	wk
	098	5m 28,220		5m	1A 240						

205 Wed/Thurs

Date Dec. 7/8 1977 Observers Ray-Ri / Ha-Ri

Emulsion Batches:
Tmax-E 20077 - 04127
098 02E 30097 - 07127
Tmax-E 10126 - 17117

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42130	HD220914	23h 23.0	+69° 41	19:57	20 35	01 59W	+70°44'	Fe Arc 100 Dia	not 7 7 7
42131	HD 3712	00h 34.8 59.2	55° 59	20:42	20:47	00 57W	56 25	Fe Arc NOT FILTER	7-7-7
42132	HD31910	04h 54.5	+60° 18	20:53	21:06	03 06E	+60 26	"	7-7-7
42133	HD22968	03h 31.6	+0° 16	21: 41	22: 51	00 05W	+00 33	Fe Arc	4-5-6
4213S1	sky cal for plates 42130-32				90 sec				
42134	HD33328	05h 04.4	-8° 53	22:58	00: 11	00 06E	-08°44	Fe ARC NOT FILTER	7-7-7
4213451	sky cal for plates 42134-37, 40.				180 sec				
42135	HD37468 (SAO. 113)	05h 33.7	+02° 37'	00. 18	00 47	00 00	-02°32	Fe ARC NOT FILTER	7-7-7
42136	HD 47105	06 31.9	+16 29	00.52	01:03	?		"	7-7-7
42137	HD 76629	08 52.4	+28 26	01.09	01:25	02 41 E		"	7-7-7
42138	+5° 1668	07 22	+ 5 15	-02.09	04:39	02 00 W		D1	10-10-10
4213871	sky cal for plates 42133, 38				15 min	1SU 03 4810	7U D1 HA	D2 5-5-5	
4213872	sky cal for plate 42134-39				15 min @ 1520	D4 4100	D4 43	10 4-5-10	
42139	HD 124752	14 10.3	+68 03	04:50	06:05	03 14 E		D1	10-10-10
4213971	sky cal for plate 42130-32				15 min @ 1	D7 U41	D3 43	D2 4-5-10	
42140	HD 128370	13 49.9	-18° 54	06.21	?	?	-18°	Fe ARC	7

Spectr. Temp. ...220F..... Dome Temp./Hum. ...-09°C 87%... Transparency Conditions .....

Focus .....100R.....

Spectr. Temp. ..... Dome Temp./Hum. ...-12C 98%...

new developer IIIaJ 5m 14244 098 5m DIY 68°F IIa0 6½

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1 CO / 138		5.50	A5 II	G16b	G16b / .38	13/5	IIaO-E	A	Evans	UUF the Four 40B	fine
40 / 14		3.34	KO II	G16b	G16b / .38	13/5	IIaO-E	B	SW Vel	"	fine
40 / 12		4.2	G0 Ib	G16B	G16B / .38	13/5	IIaO-E	B	Cygnid	"	fine
200 / 126		6.65	G0 II	G16R	G16R / .7	13/5	O [illegible] IIaO-E	B	RSCVn-Fgh	Focus 100R	fine
300 / 402		4.07	B2 IV	G12	G12 / .49	13/7	IIIa-J	A	SB Bkr		fine
200 / 240		3.51	09.5 2	G-12	G12 / .49	13/5	IIIaJ-E	B	S.B. Bkr		fine
40 / 86		1.73	A0 II	G-12	G12 / .49	9/7	IIaJ-E	A	Ann Sp KK		fine
40 / 80		3.	A5	G-12	G12 / .49	13/5	IIaJ-E	B	"		fine
50 / 8		9.9V	M4	G-65	G12 / 490	13/3	098-02	B	"	slit at 8 and = closed in 8 and 10	No good
							098-02			IIa0 6½ 20,174	
							IIIaJ-E			IIIaJ 5m DIY 68°F 098 5m 18,191	
800 / 18		8.8V	K0	G 65	G12 / .490	13/3	098-02	B	UMa KK		good sl stn
							IIaO-E				
40 / 140		2.8	G8	G-12	G12 / .490	13/7	IIaJ-E	A	Ann Sp KK	[illegible]	sl stn

Date ~~Dec~~ 9/10 1977 Fr/Sat Observers Fgi-Ri

Emulsion Batches:
098-02E 30097-07127
098-02F 30097-09127
IIIaJ-E 10126-08127

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42141	HD 22468	3h 31.6	+0° 16	21:40	22:45	00h 07W	+0° 35.6	Fe Arc ND FILTER	4-4-4
42142	HD 22468	3h 31.6	+0° 16'	22:46	23:46	01h 09W	+0° 34.4	"	4-4-4
42143A1	spectral for plates 42141-42				15 min @	15 V D3 4810		7V D1 Hd	7V D2 5450
42143	HD 33328	5h 04.4	-8° 53'	23:56	01:09	00h 57W D4 4100	-8° 43 D4 4300	Fe Arc ND FILTER D4 4810	7-7-7
42143A1	spectral for plate	42143-45			15 min @ 132	W			
42144	HD 22468	3h 31.6	+0° 16'	01:15	02.16	03:39W	0° 35	Fe ARC NOT FILTERED	4-4-4
42144A1	spectral for plate 42144.				15 min @	15 V D3 4810	7V D1 Hd	7V P2 5450	
42145	HD 37 ~~479~~ 468	05" 33.7	-20 39'	02:24	02.54	2h 15W	-2° 33	Fe ARC NOT FILTERED	7-7-7
42146	HD 41593	06h 01	+15° 34'	03.02	03:33	2h 27W	+1	Fe ARC NOT FILTERED	4-8

Spectr. Temp. 24°F ..... Dome Temp./Hum. -9°C/95% Transparency Conditions CLEAR + cold 20?

Focus 100R .....

Spectr. Temp. 15°F ..... Dome Temp./Hum. -14°C/95%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1:00/125	3-5	6.68	G0V	G16	G16R/.7B	13/15	098-02E	A	PSCVn/Eri		comp. str. fine
40?/124		"	"	"	"	"	"	B	" "		v sl str
							098-02E				
2:00/318		4.07	B2IV	G12	G12/.49B	13/7	IIIaJ-E	A	Sp Bn Bl	λ Eri	
		"					IIIaJ-E				
4:00/125		6.68	G0V	G16	G16R/.7B	13/5	098-02E*	B	RSCVn/Eri		fine
							098-02B*			IN 4x5 overflow Box	
2??/241		3.51	[illegible]	G12	G2/.49B	13/5	IIIaJ-E	A	Sp B-Bl	σ Ori AB	
8:00/59	3-4	8.04	dK0	G16	G16R/.7B	18/5	098-02B	B	RS CVn/Eri		wk
					098 5m		Dig 68°F	22	214; 21 213		
					IIIaJ 5m				13 250		

209

Date Sat Sun Dec 10-11 1977 Observers Ly-Ri

Emulsion Batches:
IIaO-E 20077-04127
IIaJ-E 10126-08127

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42147	HD 222107 (λ Aqr)	23h 32.7	+45° 55	18 06	20 03	+01 26W	+46°24	Fe Arc ND=1.10	20-20
42147T1	spectral hr plate	42147-48,	54-55.		15 min @	15 Volts	D4 D3 D2 3540 4800 4810		
42147T2	step cal hr plate	42147-48,	54-55.		90 sec				
42148	HD 10260	01h 35m 15s	+60° 32	20 13	21 36	00 55W	+60°55	Fe ARC ND=1.10	14-14-14
42149	HD 33328 (λ Eri)	05 04.4	-08 53	21 44	22 50	01 16E	-08 43	Fe Arc NO FILTER	7-7-7
42149T1	spectral hr plate	42149-			15 min @ 15	Volts	D4 D4 4140 4300	D4 4410	
42150	HD 33328 (λ Eri)	05 04.4	-08 53	22:55	00 10	00 03W		Fe ARC NO FILTER	777
42151	HD 37468 (Orion)	05h 33.7	-02° 39	00 19	01 00	00 16W	-02 23	Fe Arc No Filter	7-7-7
42151T1	step cal hr plate	42149-53.			180 sec				
42151T2	step cal hr plate	42149-53.			90 sec				
42152	HD 33328 (λ Eri)	05 04.4	-08 53	01 02	02 04	01 52W	-08 31	Fe Arc No Filter	7-7-7
42153	"	"	"	02 05	03 02	02 50W	"	"	7-6-6
42154	HD 37172 (ζ Pic)	04 32.6	+53° 41	03 17	03 43	* 04 20W	* +51 04	Fe ARC ND=1.10	14-14-14
42155	HD 34364 (HR 1710)	05 11.8	+33 39	03 50	04 37	* 04 16W	* +33 54	"	14-14-14
42155T1	optical				15 volts	4300 D4	5 min	10 min	20 min

Spectr. Temp. ...15°F - 6°F -changed for 42155 Dome Temp./Hum. - 14°C 69% Transparency Conditions ..grungy at first..210
Focus .....90B ..-.80B cleared fast
Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/310	8-10	V 3.75	G2 III	G8B	G16R/-20B	9/.5	IIIa-F	A	Het Ba-Ly		
							IIIa-F				
							IIIa-F				
400/421	4-5	5.58	B8	G-12	G-12/.49B	13/.5	IIIa-E	B	Sp Bin -Ly		mottled
200/283	3-4	4.07	B2 IV	"	"	13/.5	IIIaJ-E	A	Sp Bin - Bln	TV finally looks like it's going to work right!	
							IIIaJ-E				
200/282	3-4	4.07	B2 III	G-12	G-12/.49B	13/.5	"	B	Sp Bin - Bl		
200/2000	3-4	3.51	O9 III	"	"	"	"	A	Sp Bin - Bln		
							IIIaJ-E				
							IIIaJ-E			TV popped out	
200/280	3-4	4.07	B2 IV	G-12	G-12/.49B	13/.5	IIIaJ-E	B	Sp Bin-Bln		
200/206	"	"	"	"	"	"	"	A	"		
400/142	"	5.50	B2 IV	G-12	G-12/.49B	13/.5	IIIaJ-E	B	Sp Bin - Lne	slow CuBr IIIaJ-E - 3mm CuBr	
400/140	5-8	5.82-6.49	Ap	"	"	"	"	A	Sp Bin-Bln	encoders slipped focus changed	
							IIIaJ-E				

211

Emulsion Batches: .....

Date ..... Observers .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
	HD62044 (5 Gem)	07 37.0	+29° 07	04 48			*+29 10	Fe Arc ND:11	20-

Spectr. Te
Focus ....
Spectr. Te

Exp. Mtr.
400

Spectr. Temp. 6°F Dome Temp./Hum. ..... Transparency Conditions 212

Focus ..... 8B .....

Spectr. Temp. ..... Dome Temp./Hum. -20°C 93%

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	400	2-3"		K1 III	G8B	G16 / -.25	9/5	IIaD	B	H+K Bin-Ly	cloud!	
						II 20 6½m		Dry 68°F		20 199		
						III 20 5m				13 249		
										13 246		
									#'D	values interpolated for		
										console problems		

213

Date Dec. 11-12. 1977 Sun-Mon Observers ...Ly-Ri.....

Emulsion Batches:
IIaO-E 20077-04127
IIaO-F* 20077-11127
IIIN-E 10126-08127

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42156	HD 223107 (λ Aql)	23h 32.7	+45°55	17:20	17 52	00 40E	+46 24	Fe ARC N.D.1.10	20 sec
42157	HD 216536 (ζ Aqr)	22 02.2	+24 56	17:54	18 53	00 51W	+25 25	"	6-16 TO
42157T1	spectral fn plate	42156 - 60			15 min @	152 Volts	D4 3900	D3 4300	D2 4810
42157T2	step cal fn plate	42136 - 60				90 sec			
42158	HD 4502 (S And)	0h 42.0	+23°43'	19:03	19 47	00 05W	+24°13	Fe ARC N.D.1.10	20202
42159	HD 32328 (λ Eri)	05 04.4	−08 53'	19:58	21 44	02 18E	−08 40	Fe ARC NOF-1-12	7-7
42159T1	spectral fn plate	42159		15 min	@ 152 Volts	D4 4100	D4 4300	D4 4810	
42160	HD 10760	01 35 15	+60 32	21 52	22.48	02h13W	+61 00	Fe ARC N.D.1.1	20162
42161	HD 27192	04h 12.6	+50°41	22:55	23:23	00 09W	+56°54'	Fe ARC NO1.1	14-14
42162	HD 24534 (16 Aur)	03 11 3	+33 37'	23:29				"	
42162T1	step cal fn plate 42159				180 sec				
42162T2	step cal fn plate 42161				90 sec				
42162T3	spectral fn plate 42160				15 min @	15 Volts	D4 3900		
42162T4	Spot test II-N, uncorrected		① D1 5s 10m, no filter						
42162T5	Spot test IV-N, H2O soln.		② D1 5s 10m, no filter						

Spectr. Temp. 14°F ..... Dome Temp./Hum. -12°C/60% Transparency Conditions ..... 214 SW

Focus 90B .....

Spectr. Temp. 10°F ..... Dome Temp./Hum. -15°C .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/151	2-3	V 3.75	G8 III	G8B	G16R/-.253	9/.5	IIaO E	A	Hek Bu-Ly		fine
200/131	2-3	6.14	K0 Ib	"	"	13/.3	"	B	"		fine
	Broken						IIaO E			BROKEN 3 pieces	
							IIaO-E				
200/150	2-3	4.06	K1 III p	G8B	G16R/-.253	9/.5	IIaO-E	A	Hek Bu-Ly		fine
200/250	2-3	4.07	B2 V	G-12	G-12/.490	13/.5	IIIaJ-E	B	Sp Bu - Bln	cirrus	
							IIIaJ-E				
200/240	"	5.52	B8	G-12	G-12/.490	13/.5	IIaO-E	A	Sp Bu - Ly		
200/281	2-3	5.50	B9 IV	"	"	13/.5	IIaO-E*	B	Sp Bu - Bln		
200/	"	5.22V	Ap	"	"	"	"	A	E/Bu-Bln	CLOUD.	
							IIIaJE				
							IIaO-E*			IIaO 6½ / IIIaJ 5m / N-N 4m } D17 60°17 13 249	
							IIaO-E*				
							IN-N				
							IN-N$_{H_2O}$			3m water 2°C, 16h, room 14hrs	

Comparison Type/Filter Exp.

215

Date .Dec. 16-17. Fri-Sat. Observers ..Ly-Th.....

Emulsion Batches:
...II a O-C 20077 - 11127
..III a J-e 10126 - 12127
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
42163	HD 10560	01 35.2	+60 32'	23 43	00:45'	4 30 W	+61 00	Fe Arc ND 1.10	14-14-14	45/111
42163T	Spot Calib for	42163 c	69-71	15 min @ 15V	04 3900	D3 4300	02 4800			
42164	HD 47105	06 31.9	+16 29'	00 52	01:12	00 00 W	+16 29	Fe Arc None	7-5-7	45/111
42165	"	"	"	01 13	01:24	00 11 W	"	"	7-7-7	45/111
42166	"	"	"	01 25	01 28	00 15 W	"	"	7-6-6	45/111
42166T	Spot Calib	for 42164-68		15 min @ 15V		D4 4810	P4 4700	D4 4110		
42167	HD 33328 λ Eri	05 09.4	-8 53'	01 32	02 28	02 44W	-D& H2	Fe Arc	5-5-5	300/300
42167T1	Strip Calib for	42164-68			90 sec					
42167T2	"	"			180 sec					
42167T3	"	"			360 sec					
42168	HD 37468 (ESO #)	05 33.7	-2 39'	02 31	02 57	02 46W	-02 31	Fe Arc None	5-5-5	300/111
42169	HD 62044 (ζ Gem)	07 37.0	+29 07'	03 05	03 55	01 37W	+29 00	Fe Arc ND 1.10	20-20-20	200/111
42170	HD 85021/2	10 03 8	+20 49'	04 03	05 58	01 14W	+20 30	Fe Arc ND 1.1	14-14-14	400/111
42170T	Strip Calib for	42153-69-71				91 sec?		"		
42171	HD 131511	14 52	+19 33	06 04	06 49	02 39 E	+19 18	K Arc ND 1.1	14-14	400/104

Spectr. Temp. 34°F ..... Dome Temp./Hum. 32°F / 99% Transparency Conditions ... poor at first (clouds) better as night progressed. 216

Focus ..... 80-B .....

Spectr. Temp. 33 ..... Dome Temp./Hum. 29 / 97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/100	2-3"	5.56	B8	G12	G12/0.498	13/1.5	IIaO-e	A	Sp Bin - Ly		sl wk
40/111	2-3"	1.93	A0IV	G12	G12/0.498	9/1.5	IIaJ-e	B	STD *		v sl str
40/64	"	"	"	"	"	"	"	A	"		fine
40/27	"	"	"	"	"	"	"	B	"		sl wk
							"				
200/280	3-4	4.07	B2IV	G12	G12/0.498	13/1.5	"	A	SB Bln		sl wk
							"				
							"				
							"				
300/254	3-4	3.51	O9.5V	G12	G12/.493	13/1.5	IIIaJe	B	Sp Bin Poln		v sl wk
200/150	2	6.4	K1III	G16	G8B/.25B	9/.5	IIaJe	A	H+K Bin - Ly		fine
400/200	2-3	7.2	g65+A2	G12	G12/.493	13/1.5	IIaOe	B	VB - Bln		fine
						12/1.3	"				
40/104	3-4	G2V	dK1	G12	G12/.493	13/1.3	"	A	H+K Bin - Ly		fair
										see next night	

217

Emulsion Batches: II a0-e 20077-17127

Date Dec 17-18 Sat-Sun Observers Tn-Wat

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42172	HD 10260	01 35.3	+60 32	18 50	20 23	00 11W	+61 06	FeAr ND.10	4-4-4
42172T	Spot Cals for	42172-73		15min @ 15V	D4 3900	D3 4300	D2 4810		
42173	HD 12534 B C	01 57.8	+41 51	20 38	21 07		+42 25	FeAr ND.10	14-14-14
	~~HD 12533~~	~~01 57.8~~	~~+41 51~~	~~21 07~~				"	4-
42173T1	IV-N test	No filter	5V 5m D2						
T2	"	"	"		soaked in 20%	Methanol + water 5m		, expired wet	

Spectr. T
Focus...
Spectr. T
Exp. Mtr.

Spectr. Temp. 32°F ..... Dome Temp./Hum. 27°F / 80% Transparency Conditions .. Poor .. s .. Gusty 219

Focus ..... 8.0 R .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/115	4-6"	5.56	B8	G12B	G12/0.49B	13/1.5	IIaO-e	A	SB Lg	Some cloud	fine
200/44	4"	5.08 +6.2	AO	G12B	G'21.49B	13/1.5	IIaO-e	B	Waterloo	cloud some s/ contam'n from bright star	guiding
200/	"	3.28	KO	"	"	"	"	A	"	cloud	
							IIaO 6½m	Dig 68°E	20	175 20 174	
							IIIaJ 5m		10	212	

Date Dec. 23-24.. Fri-Sat Observers .J.a...:.Waterloo.night.

Emulsion Batches:
IIa.O 20077 - 17127
*IIa.O....20077....-29127 only 2hrs Vac

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42174	HD 12533	01 57.8	+41 51	17 21	17 51	02 21 E	+42 19	Fe Arc ND 1.0	14-14-
42174T	Spot Calib for	42174-82		15 min @ 15V	D4 3900	D3 4300	D2 4810		
42175	HD 12534 B+C	01 57.8	+41 51	17 52	18 11	02 01 E		Fe Arc ND 1.0	14-14-1
42176	HD 3627	00 34.0	+30 19	19 01	19 52	01 05 W	+30 49	"	14-14-1
42177	HD 16895	02 37.4	+48 48	19 59	20 31	00 20 E	+49 11	"	14-14-1
42178	HD 7927	01 13.8	+57 42	20 37	21 21	01 55 W	+58 11	"	14-14-1
42179	HD 15089 A	02 20.8	+66 57	21 26	21 43	01 08 W	+67 22	"	14-14-1
42180	HD 13994	02 11.0	+57 04	21 47	23 21	02 55 W	+57 27	"	14-14-1
42181	HD 71663 A	08 23.5	-2 11	23 29	01 55	00 39 E	-2 22	"	14-14-1
42182	HD 71369	08 26.1	+60 53	02 02	02 18	00 17 E	+60 51	"	14-14-1
42183	HD 67006	08 04.7	+51 39	02 33	03 01	00 48 W	+51 37	"	14-14-1

Spectr. Temp. 33°F ..... Dome Temp./Hum. 34°F / 72% Transparency Conditions .. Getting cloudy at Sunset

Focus ... 80-R .....

Spectr. Temp. 32°F ..... Dome Temp./Hum. 33 / 92?

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/160*	1-2"	3.28	K0	G12 B	G12/0.49	13/5	IIa0-e	A	Cl Vis Bin	* approx * Exp meter cdH cloud 40 sec	
200/43	1"	5.08+ 6.2	A0	G12B	G12/0.49	13/35*	IIa0-e	B	Cl vis Bin	* slit shortened to avoid "A" Cutsheet	
400/310	1-2"	4.6	K3 III	"	"	13/5	"	A	Wd Vis Bin	Cloud	
200/117	2"	4.6	F7 V	"	"	"	"	B	"	Some cloud	
400/300	2"	5.6	F0 Ia	"	"	"	"	A	"	Thin cloud	
200/70	2-3"	4.7?	A5	"	"	"	"	B	Cl vis Bin (Rotate Point)	* Close triple wh c2 is B	
400/240	"	7.0	G2 III	"	"	"	"	A	Wd Vis Bin	Clear up here	
400/170	3"	6.7	F0	"	"	"	"	B	Cl Vis Bin	More cloud gone here Cloud again	
200/120	2-3	5.7?	G2 I-II	"	"	"	"	A	Wd Vis Bin	thin cloud seems brighter (2 inch on Ken off)	
200/84	2"	4.5	A2 V	"	"	"	IIa0 *	B	Vis Bin	seems	
				Developed	6.5 min		D19 @	69°F	22 191		

221

Mon-Tues

Date Dec. 26-27/77. Observers Ly-To.....

Emulsion Batches:
II a.O.-G. 20077-24127
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42184	HD 222107 (And)	23 32.7	+45 55	19 49	20 49	03 15 W	+46 24	Fe Arc ND 1.10	20-40
42184T	Spot Calib for 42184			15 min @	15V	D4 D3 D2 3900 4300 4810			

Spectr. Temp. 18°F Dome Temp./Hum. +13°F/H=80% Transparency Conditions Cloudy. s. gusty 22nd

Focus 100-R

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/60	3-4	V= 3.75	68 III	68	616/6495	9/5	IIaO-e	A	HHK Burley	TV poor ultimately no counts after 7 hours	
		Dec 28		68°F	6½ min	D19					
										Same galaxy field 9 hours	

Comparison Type/Filter Exp

223 Twin Ward

Date Dec 21-28/17 Observers Ly-Th

Emulsion Batches:
IIa O.C. 30077-24127
O78.02C 30097-23127
Tri-X-C. 10126-12127

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42185	HD222107 (Mag)	23 32.7	+45 55	17:26	18 14	00 44 W	+46 26		
42185T	Spot Calib for 42185-87, 90, 92, 15 min [94-95]			15V D4 3900	D3 4300	D2 4810			
42186	HD218356	23 02.2	+24 56	18:24	19 28	02 29 W	+25 29		
42187	HD4502	00 42.0	+23 43	19 31	20 44	02 06 W	+24 17	"	
42188	HD20468	03 31.6	00 16	20 52	22 01	00 33 W	+00 39	Fe Arc No Filter	4-3-3
42188T	Spot Calib for 42188-89.			15 min @	15V D3 4810	7UDI H2	7V 5450	D2 0	
42189	HD33328 (λ Eri)	05 04.4	-08 53	22 05	22 33	00 27 E	-8 39	Fe Arc None	3-3-
42190	HD60754 (α Gem)	07 32.0	+32 01	22 42	23 26	02 07 E	+29 03	Fe Arc ND 1.1	20-20-20
42190T	Strip Calib for 42185-87, 90, 92, 94-95.			90 sec					
42191	HD33328 (λ Eri)	05 04.4	-08 53	23 53	00 45	01 45 W	-8 37	Fe Arc None	7-5-5
42191T	Spot Calib for 42191			15 min @ 15V		D4 4310	D4 4320	U4 4450	
42192	HD26676	04 08.1	+09 58	00 50	02 00	03 56 W	+10 17	Fe Arc ND 1.10	14-14-14
42193	HD37468 (ω Ori AB)	05 33.7	-02 39	02 04	02 30	03 01 W	-02 27	Fe Arc None	5-5-5
42194	HD86021/2	10 03.8	+20 49	02 35	05 10	01 11 W	+20 33	Fe Arc ND 1.10	14-14-
42195	HD131511	14 48.9	+19 33	05 16	07 04	01 39 E	+19 22	Fe Arc ND 1.10	14-14-

Spectr. Temp. 20°F Dome Temp./Hum. 41°F / 77% Transparency Conditions Excellent → Strm. Cloud 20:00

Focus 1007

Spectr. Temp. 11°F Dome Temp./Hum. 16°F / 92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/110	4"	V= 3.75	K III	G16B	G16/-.252	9/5	IIaO-e	A	Ha K Em - Ly C		fine
			Dec 28 6½ mi @ 68°F D19								
200/130	3"	6.14	K0 III p	G5	13/5	IIaO-e	B	Ha C Em - Ly C			v slwk
200/182	3"	5.4	K1 IIIp	"	"	9/5	"	A	"	some cloud	fine
200/65	3"	6.68	G0 V	G16	G16/+.78	13/5	098-02E	B	R=C Em - FDJ		
			Dec 28 5mi @ 67°F D19				"				
200/110	3	4.07	B2 IV	G16	G16/.78	13/5	098-02E	A	SB Ha	UV over slit	
200/241	3	5.6	K III	G12B	G16/-.252	9/5	IIaO-e	B	Ha K Em - Ly C	UV out - cloud - snow	sl wed
			Dec 28 6½ mi	@ 68°F			"			closed for snow	
200/302	3-5"	4.07	B2 IV	G12	G12/0.498	13/5	IIIaJ e	B	SBun Blm		
			Dec 28 5mi @ 67°F D19 "								
200/60	3-4	6.25	B8	G12	G12/0.498	13/5	IIaO-e	A	SpBm - Ly C	TV failing a gone	
200/242	2	3.51	O9.5 V	"	"	"	IIIaJ-e	B	SpBm - Blm	TV slowly improving	
400/202	2	7.20	G5-A2	"	"	"	IIaO-e	A	VB - Blm	TV ok' high curves	
400/213	2	6.61	dK1	"	"	"	IIaO-e	B	SpBm - Ly C		

225

Wed/Thurs

Date Dec 28/29 1977 Observers Fgi-Ri

Emulsion Batches:
098-02e 30097-23127
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42196	HD 65626	$7^h 54.5$	$+57° 33$	03:52	04:42	02 54W	$+57° 27'$	Fe arc NO FILTER	7-7-7
4219691	optical finplate 42196				15m	15003 4810	70 44	D1	70 D2 5450
42197	HD 106677	$12^h 11.0$	$+73° 07$	04:46	05:46	00 15E	$+72° 47$		7-7-7
42198	HD 118216	$13^h 30.2$	$+37° 42'$	05:57	06:10	$01^h 10E$	$+37° 24.6$		7-7-7
42199	HD 146361	$16^h 10.9$	$+34° 07$	06:15	06:44	$03^h 17E$	$+34° 03$		7-7-7

Spectr. Temp. 17°F Dome Temp./Hum. 17°F/96% Transparency Conditions PATCHY

Focus 100R

Spectr. Temp. 19°F Dome Temp./Hum. 14°F/96%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/125	2-3	7.1	GO	G16R	G16R/.78	13/1.5	098-02-e	B	RS CVn/Fg'		
Dec 29		5min	@68°F	D-19			098-02E				
400/125	2-3	7.55	KO	G16R	G16R/.78	13/1.5	"	A	RS CVn/Fg'		
400/125		5.33	FOV	"	"	"	"	B	"		
400/125		5.76	VE6	"	"	"	"	A	"		

1977
227

Date 24.30.31 Fri Sat Observers ....Ly.-R.....

Emulsion Batches:
Tech-E 2007-2712.7
IIa-J-E 10126-12127
IIa-O-E 20077-30127

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp. Mtr.
42200	HD62044	7 37.0	+29 07	21 50	22:40	02 40E	+29 01	Fe Arc ND=1.1	20-3	
42200T1	spot cal for plate 42200				15min @ 15.65		D4 3900	D3 4300	D2 4710	
42201	HD79468	9 05.2	+02 44	22 52	23 27	03 25E	+02 34	Fe Arc ND=1.1	12-12	
42202	HD26676	4 08.1	+09 58	23 33	00 26	04 11W	+10 15	Fe Arc ND=1.1	14 14	
42203	HD33328 (AGK1)	5 04.4	-08 52	00 34	01 37	02 50W	-08 35	Fe Arc No Filter	6-5	
42203T1	spot cal for plate 42203-4				15min @ 15.65		D4 4100	D3 4310	D2 4810	
42204	HD37468 (HOLAE)	5 32.7	-02 29	01 42	02 11	02 54W	-02 29	Fe Arc No Filter	6-6	
42205	HD34364 (AK Aur)	5 11.8	+33 39'	02 14	02 49	03 53W	+33 53	Fe Arc ND=1.1	14.-	
42206	HD96003	10"59.3	+13°12'	02.58	05 56	01 14W	+12°52	"	18-18	
42206T1	step cal for plate 42203, 04				150 sec					
42206T2	" " " 42200 - 02, 05				90 sec					
42206T3	" " " 42206				90 sec					

Spectr. Temp. ...47°F..... Dome Temp./Hum. ...-05°C..10%... Transparency Conditions ..Yeetly cloudy.....

Focus .....9.01.....

Spectr. Temp. ..... Dome Temp./Hum. ...-10°C./95%...

than pretty good than Dish Soap

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/280	3-4	5.14	K II	G8	G16/.0253	9/5	IIaO-C	A	HδK Bm-Ly		
							IIaO-E				
400/136	3-4	5.82	B5 V	G12	G12/0.498	9/5	IIaO	B	Sp Bm-Bln		
400/260	"	6.25	B8	"	"	13/5	IIaO-C	A	Sp Bm-Ly		
400/300	"	4.07	B2 II	"	"	"	IIaJ-C	B	Sp Bm-Bln		
							IIaJ-C				
400/243	"	3.51	O9.5 V	G12	G12/0.498	13/5	IIaJ-C	A	Sp Bm-Bln		
400/140	"	5.82-6.49	AD	"	"	"	IIaO-C	B	Ecl Bm-Bln		
400/300	3-10	6.75	nD	"	"	9/5	IIaO-E*	A	ND-HR	Large [illegible]	
							IIaJ-E				
							IIaO-E				
							IIaO-E*				
			IIaO	6'2" @ 68°F		D19					
			IIaJ	5mm @ 68°F		D19					

229

Emulsion Batches:
I.a.a.R. 20077 : 30127
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Date JAN. 2/3. MONTVEL. 1948 Observers B. J. K.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp Mtr.
42207	HD 96003	10 59.3	+13 12	0233	0502	0030N	+1255		14m	
						D4	D3	02		
42207A	put cal for plate 42207.				15 sec @ 15 Volts	3900	43m	4510		
42207B	stop cal									

4
"

Spectr. Temp. 16°F Dome Temp./Hum. -11°C Transparency Conditions 230

Focus 102R

Spectr. Temp. Dome Temp./Hum. -13°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/300		ETS	A	512	GR 1/mm	9.5	IIaE	A	Ap MR		
	Ja 3	65 min	@ 68°F (20°C)		D+9		IIIa-E				

231

Emulsion Batches:
T.O.E. 20077-30127

Date JAN. 3/4. 1978. TUES: WED. Observers ...But-Ri.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42208	HD 222416	23h 35.3	+44° 31'	17 :34	20 09	0305W	+44 02	Fe Arc UV 110	12-13
42209	HD 17330	02h 41.8	+29°17'	20 12	21.22	1711W	4 29 41	"	1326
4220971	spot cal for plates 42208-09			.15 min @ 15 Volts		D4 3900	D3 4300 D2 4910		
4220972	step cal for plates			Dark					

Spectr. T
Focus...
Spectr. T
Filter

Spectr. Temp. ..180°F..... Dome Temp./Hum. -10°C 70% Transparency Conditions 232

Focus ..... 100R .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/150		745	Ap	G-12	G12/490	13/1.5	IIaO-E	A	Ap-MR		
300/120	3-4	7.17	B9	"	"	"	"	B	" "	clouds	
							IIaO-E				
							IIaO-E				
4203-09T2	Jan	9/78	6.5 min	@68°F		D19					

233

Sun - Mon

Date Jan 15:16/78..... Observers .K.K.-Tn.....

Emulsion Batches:
.Ha.J.e.10126....31127
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42210	HD 47105	6 31.9	+16 29	22 22	22 39 D4	00 36E D4	+16 28 D4	Fe Arc	6-6
42210T	Spot Calib for 42210			15 min @	15V 4100	4300	4810		
42210F	Focus Test				in in out	out	5/5	None	5-5
42211	HD 47105	6 31.9	+16 29	23 08	00 03	0050 W	+16 28	Fe Arc	2-2

Spectr. Temp. 13° F Dome Temp./Hum. 10°F / 88% Transparency Conditions clear with snow 234

Focus 90-B

Spectr. Temp. ..... Dome Temp./Hum. +5°F/.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/70	6"	19	A0 IV	G12B	G12/0.49B	9/5	IIIaJ	A	Asm-Sp/KK	snow at end	fine
Temp + 13°F				G12B	G01.49B	9	4a0	B	set 90-B	center to blue	
40/200	3"	1.9	A0 IV	G24K	"	13/5	IV-N H	C	Asm-Sp/KK	Wr 8 before slit plate soaked 20m H2O/Methanol ambient	wk
					IIIaJ 5m D19		68°F	12	244		
					IV-N 6m D19		60°F				
					IV-N shows interference fringes from filter at 24Å spacing						

235

Date JAN. 16/17 MONDAY Observers B.J.H. I.S.

Emulsion Batches:
II.a.O < 2077-2712

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42212	HD 43496	06 11.4	+15 53	22 29	01 11	02 23W	+15 56	FE ARC HNG 1-1	13-15-17
42212T1	Spot Cals for 42212-14			15m @ 15V	D4 3900	D3 4300	D3 4810 shoulder D2		
42212T2	Strip Cals for 42212-14			90 sec					
42213	Hb 96003	10 59.3	+13 12	01 16	04 33	0058W	+12 52	FE ARC ND 1.10	14-15-16
42214	HD 138406	15 26.8	+62 05	04 39	05 57	0203E	+61 51	"	14 30

Spectr. Temp. ..20°F..... Dome Temp./Hum. 17°F / H=80% Transparency Conditions ...Very Good by 22h 236 Hg

Focus .....90-B.....

Spectr. Temp. ..... Dome Temp./Hum. 10°F / 98% getting more hazy —

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/15<	3"	7.16	B9	G12	G12 D19	131.5	IIaO E	A	Ap MR		fine strong Hg
400/138	3"	6.75	Ap	G12B	G0/1498	91.5	IIaO-E	B	Ap MR	haze	
100/51?	3"	6.79	A0	G12B	"	"	"	A	Am MR	faint haze	sl wk uneven
					6½" D19	68°F	20	174			

237

Date June 18/19 W.K. Observers Rm-Ri / Hk-Ri

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42215	HD 223468	3h 31.6	0° 16	17:53	19:04	00 57 E	+00° 35'	Fe arc	4 - 1
42215'	spectral hr plates	42215			15 min	15V 03 4810	7V D1 42		
42216	HD 30287 = AV Per	04h 41.1	+36° 36	19:14	20:19	1:20 E	+36° 49	Fe arc ND 1.10	10-2
42217	HD 31910 = RT Aur	06h 22.1	+30° 33.3	23:17	00h 17	1h 25 W	+30 33	Fe arc ND 1.10	14-M-14
42217'	spectral hr plates	42216-			15 min @ 15 Volts		D4 3900 D3 4300 D2 4810		
42218	MOON			00:31	01:17	04m 45s W	+16° 20'	Fe arc WR 8	30 30 3
42217L	step cal hr plates 42216-			90 sec					

Spectr. Temp. ...20°F..... Dome Temp./Hum. ...-0.8°C...53%... Transparency Conditions .. cirrus clouds.....

Focus .....90.B.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/125		668	GOI	G16	G16/.76	13/.5	098-02E	A	RS CVn/Eri		
							098+02E				
800/53		7.9-8.8	F6-G1	G12	G12/.496	20/.3	IIaO E	B	Cep/Evans	cloud	too wk
400/218		5.3-6.5	F1-00	G12	G12/.496	13/.5	IIaOE	A	Cep/Evans	cloud	
							IIaJE				
40/20				G-24	G12/.7758	9/9	III-N-H	C		WR8, hyperid water + methanol, ambient, 30m, sp. wet	too wk!
							IIaO-E				
					IIaO 6½m		21 124				
					C08 5m						

239

Emulsion Batches:
IIIa J-E. 10126 .. 3127 ..
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Date Sat Sun Jan 21-22 1978 Observers KK-Ri / Fg-Ri .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42219	HD 215182	22 38.3	+29 42	19:00	19^h32	04^h37W	+30°10'	W 8 Fe Arc	10-10-
42220	HD 48915(αCMa)	6 40.8	−16 35	1945	20:03	02^h54E	−16° 36	"	20-20
42221	HD 47105(β6 Eri)	6 31.9	+16°29	20 24'	20:35	02^h14E	+16° 28	Fe ARC NO FILTER	7-7-
42222	HD 76644	8 52.4	+48 26	20.40	21:15	03 55E		"	7-7--
42222Cal	spectral for plates 42221-22, 24-26				15min @ 152 volts		D4 4.00	D4 48m	D4 4810
42223	HD 61421	7 34.1	+5 29	21:28	22:02			W 8	
42224	HD 56986	7 14.1	+22 10	23:00	23:42	0 11W		Fe arc no filter	7-7--
42224Cal	duplicate for plates 42221-22, 24-26					180 sec			
42225	HD 99028	11 18.7	+110 5'	23.46	0:27	3 08E	+10 43		7-7-
42226	HD 37463(α Lep)	05^h 33.7	−2°39	00:34	1:08	3 10W	−2 33.3	Fe arc no filter	7-7-7
42227	HD 106677	12^h 11.0	+73°07	03:27	04:18	0 01W	+72° 43	Fe ARC NO FILTER	4-4-4
42227Cal	spectral for plates 42227-42238			15min		D3 15U 480	D17U Hd	D27U 5450	
42228	118216	13^h 30.2	+37°42'	04.35	04.54	0 52E	+37°20	Fe ARC NO FILTER	4-4-
42229	118216	"	"	04:54	05:16	0 30E	"	"	4-4-4
42230	"	"	"	05.16	05:38	0 07E	"	"	4-4

Spectr. Temp. ...20°F..... Dome Temp./Hum. -10°C ...9% Transparency Conditions cirrus, haze 240

Focus .....90B.....

Spectr. Temp. ..... Dome Temp./Hum. .....

page 1 of 2

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
80/60	2-3"	3.8	G8II + F	G-24	G-12/.498	13/.5	HSI	A	Asm-Sp KK	in IIIaJ J exp box Wk 8 in front slit	v sl wk
40/110	4"	-1.5	A1V	"	G-12/.775	"	IV-Nh	B	Asm-Sp KK	"	v sl wk
0/72		1.9	A0 IV	G-12	G-12/.498	9/.5	IIIaJ-E	A	Asm-Sp KK	very close to moon	fine!
0/82		3.3	A5	"	"	13/.5	"	B	Asm-Sp KK		fine
							IIIaJ.E				
40/100	3"	0.7	F5IV	G-24	G-12/.775	9/.5	IV-Nh	C	Asm Sp KK	clouds follow	sl wk comps wk
0/100		3.9	F0IV	G-12	G-12/.49	13/.5	IIIaJe	A	Asm Sp KK		fine
							IIIaJ.E				
40/80	2"	4.5	F2IV	G-12	G-12/.49	13/.5	IIIaJe	B	Asm-Sp KK		
40/50		3.51	09.5I	G12	G12/.49	13/.5	IIIaJe	A	Sp Bin B/n	clouds	v sl wk
200/252		7.55	A0	G16	G16/.700	13/5	09802-E	B	RS CVn Rgi		fine dbl lines
							098-02E				
400/125		5.3	1.0 IV	G-16R	G16/.73	13/.5	098-02E	A	"		fine
400/125		"	"	"	"	"	"	B	"		fine
400/126		"	"	"	"	"	"	A	"		fine
			IV J	5m 12,2AA	098	5m	26195	IV N	5m	H31 8m	

241 #2

Date Sun Jan 22 1978 Observers Fg1-R1

Emulsion Batches:
098-02E 30097-13018
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42231	HD118216	13h 30.2	+37°42	05:39	06:00	00 14W	+37°20'	FeARC NO FILTR	4-4-4
42232	HD 146361	16h 10.9	+34°07	06:03	06:37	01 47E	+33°57	-	4-4-4
42233	HD146361	"	"	06:38	07:09	01 17E	"	"	4-4-

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 242

Focus ..... 90B .....

Spectr. Temp. ..... Dome Temp./Hum. -15°C ... 100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/125		5.3 J	FDII	G.16	G.16/.7B	13/.5	098-02E	B	PSCVn-Fgi		v sl wk
400/125		5.76	dF6	G-16	G.16/.7B	13/.5	098-02E	A	"		v sl wk dbl lines
400/10R		"	"	"	"	"	"	B	"	clouds	sl wk dbl lines
										DAWN	
					098		5" D19 68°F				

243

Sun/Mon

Date Jan 22/23 1978 Observers Ly-R.

Emulsion Batches:
IIaD 20077-22127
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Ex
42234	HD 10260	01 35	+60 32	18:16	19:22	01 31 W	+60 59	FeArc ND=1.1	18-10
4223491	step cal for plate	42234-			90m				

Spectr. T
Focus...
Spectr. T
Dis Mtr.
40/73

Spectr. Temp. ..20°F..... Dome Temp./Hum. ..8°C. 85%. Transparency Conditions ..Bf hzy ..y-clr! 244

Focus .....90B.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/73	3-5	5.56	B8	G12	G12/0 us3	13/5	IIaOe	A	EpBm-hy	19:05 ZIP 01 15W	st. wks, Hg lines
							IIaOE				

Comparison Type/Filter Exp

245

TOUR 1st Mr's group

Date JAN 23/24 MON/TUES/78 Observers But.-Ri.....

Emulsion Batches:
IIaO E. 20077. 7712.7....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42235	HD 26571	04 07.0	+22 09	21 06	22 25	0209W	+22 25	Fe ARC N.D 1.10	14 14 14
42236	HD 51418	06h 52.2	+42° 26	22: 30	0006	0103W	+42023	"	14 14 14
42236T1	spot cal for plates	42235-			15 min @ 15 Volts	D4 3900	D3 4300	D2 4810	
42236T2	step cal for plates	42235 -			90 sec				
42237	HD 37468 (50 Or. AB)	05 33.1	-02° 39'	00 10	0103	0321W	-030 30'	FE ARC NO FILTER	7-7-7
42238	HD 96003	10° 59.3	+13° 12	01 07	0410	0102W	+12 52	Fe ARC N.D 1.10	14-14-14
42238T1	spot cal for plates 42237				15 min @ 15 Volts	D4 4100	D4 4300	D4 4810	
42238T2	step cal for plates 42237				90 sec				

Spectr. Temp. 20°F Dome Temp./Hum. -08°F 8B% Transparency Conditions HAZY WINDY

Focus 90B

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/141	2-3	6.11	B8	G-12	012/.450	9/.5	IIaE	A	Ap-MR		
400/140		6.61	A0	G-12	012/.449	"	"	B	Ap-MR		fine
							IIaO-E				
40/55		3-51	09.5V	G 12	G12/.449	13/.5	IVaJE	A	Sp Bin Bin		fine
40/102		6.75	Ap	"	"	9.5	IIaO-E	B	Ap-MR	V. HAZY	v sl wk str lig
							IIIaJ-E				
					IIIaJ	5m			12 245		
					IIaO	6'/2"	D:9	68°F	22 183		

247

Sat - Sun

Date Jan. 28-29/78. Observers K.K.-Tn./Dln.-Tn.....

Emulsion Batches:
IIaJ-e 01126-22018
IIaO-e 20077-30127
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42239	HD 37468 ~OriAB	05 33.7	-2 39	23 28	00 17	02 54 W	-2 29	Fe Arc None	7-7-7
42239T	Spot Calib for 42239			15 min @ 15V		D4 4100	D4 4300 D4 4810		
42240	HD47105	06 31.9	+16°29'	00 23	00 36	02 15 W	+16°31	Fe Arc None	11-7-7
42241	HD 82112	10 03.8	+20 49	00 42	02 58	01 05 W	+20 34	Fe Arc None	14-14-14
42241T	Spot Calib for 42241		1.5 min	@14V	D4 3900	D3 4300	D2 4810		
42241T	Strip Calib for 41				90sec				

Spectr.
Focus
Spectr.
Exp. Min

Spectr. Temp. 20°F Dome Temp./Hum. +7°F / 87% Transparency Conditions ..Clear by 23h 249
Focus 90-B some thin cloud
Spectr. Temp. 11°F Dome Temp./Hum. +2°F / 87%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/70	~8"	3.51	095 V	G12B	G12/.498	13/19	IIIaJ-e	A	SB Bln		sl. wk
							IIIaJ-e				
40/71	>10"	1.9	A0 IV	G12	G12/.493	91.5	IIIaJE	B	KK *		fair
400/98	8'-6"	7.20	365 + A2	G12	G2/.498	13/5	IIaO-e	A	VB Bln	cloud	fair, not spiked to edge
							IIaO-e				
							"				
				IIaO	6½"	D19	65°F	24	167		
				IIIaJ	5m	D19	65°F	13	240		

249

SUN-Mon

Date JAN 29/30 78 Observers Fg-Tn / Kk-Tn

Emulsion Batches:
098-02 30097 - 13108
Ilford 200 77 - 36127

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T. *	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42242	HD 22468	3h 31.6	+0° 16	22:47	00:14 ?	4:58 W	+0° 32	Fe Arc NO FILTER	4-4-4
42242T	Spot Calib for 42242		15 min	@	D3 15V 4810	D1 7V Hα	D2 7V 5450		
42243	HD 76151	8 49.4	−5° 04'	00 30 ±	00:50	0 15 W		Fe Arc UV 2	5-5
42244	HD 121370	13 49.9	+18 54	02 56	03:01	2 30 E	+18 39	Fe Arc NO 1.0	14-14-14
42245	HD 122742	13 58.6	+11 16	03 07	04:52	0 51 E	+11 02	"	14-14-
42245T	Spot Calib for 42244		47		15 min @ 15V	D4 3400	D3 4300	D2 4810	
42246	HD 131511	14 48.9	+19 33	04:55	06:45	0 11 W	+19 23	Fe Arc NO 1.0	15-14-1
42246T	Strip Calib for 42244		−47		90 sec				
42247	HD 129897	14 11.1	+19 42	06:49	06:51	0 56 W		"	
42247T1	Test strip IV-N 15 sec exp, red filter								
42247T2	" " "	"	"	, hypo'd H_2O + $AgNO_3$ (10,000:1)		2m 18°C, exposed wet			

Spectr. Temp. 15°F Dome Temp./Hum. +13°F/70% Transparency Conditions ... Scattered clouds & haze 250

Focus ... 90-B : For G12

Spectr. Temp. 12°F Dome Temp./Hum. +4°F/92%

Fair Aurora at 3h getting better by 4:30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/58	>10"	6.68	G0 V	G16	G16R/.76	13/15	098-02e	A	RS CVn/Fe	reversed - (cap rime down before end!	ok uneven (dispersion?)
							"				
400/11	6"	6.7	d63	G24R	G16-24/.38B	13/.5	098-02e	B	Asn-Sp KK	Focus 7AR V filter before slit Cloudy	fair
400/23	6"	3.27	G0	G12	G12/.49B	13/.7	IIa-0e	A	"		fine
700/180	3-6"	6.9	G8V	G12	"	13/.5	IIa-0e	B	"		fine
400/205	4"	6.94	dK1	G12	G12/.49B	13/.5	IIa-0e	B	"		fingerprints fine
							"				
40/25		1.29	K2 IIIp	G12	G12/.49B	13/.5	"	B	Std Vel		fine
				IIa-0	6½mm	D19	68°F	23 188			
				098	5mm	D19	68°F	35 235			
				IV-N	"	"	"				

251

Emulsion Batches: IIa-e-20077 ... 30018

Date JAN 31 - FEB 1 ... 78 .. Observers But ... Tu .....
Tues - Wed

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42248	HD 47256	06 32.6	+27 53	22 50	00 20	0208W	+27 58	FE ARC ND 1.1	15-14-1°
42248T	Strip Calib for 42248					90sec			

Spectr. Temp. 120°F ..... Dome Temp./Hum. 14°F / 90% Transparency Conditions Scattered cloud 25R

Focus ....90-B.....

Spectr. Temp. ..... Dome Temp./Hum. ..../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/148	2-3	126	A3	G12	G12 / 49B	3/5	IIaO-E	A	Ap MR	some cloud	sl wk
							"				

253

Date Feb 2/3 (Thu/Fri) 1978 Observers BB-Tn

Emulsion Batches:
IIaO-E 20077-30018
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42249	HD103095	$11^h47.2$	+38°26′	2:14	04 04	0 47 W	+37°53′6	Fe Arc ND 1.1	14-14-4
42249T	1 Spot calc for 42249		15 min @ 15 V		D4 D3 D2 3900 4300 4810				
~~42-1172~~	~~5 step Calc for 42249~~								

Spectr. Focus... Spectr.

Exp. Mtr

Spectr. Temp. 20°F ..... Dome Temp./Hum. +15°F / 98% Transparency Conditions .. clearing & cold 254

Focus .... 90:B .....

Spectr. Temp. [redacted] ..... Dome Temp./Hum. ..... / .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/108	4-7	6.45	68 II	G12	G12/0.49B	13/1.5	IIa-e	A	KK	some strange spectra	vsl ok
							"				
					IIa0	6m	D19 68°F	19	170		

255

Date Feb 3/4 1978 Observers Ly-Tn

Emulsion Batches:
IIa0.e. 24[illegible]-30018
098.02e. 30097-02028
IIaJ.e. 29018-01126

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42250	HD10260	01 35.2	+60 32	18:12	19:26	02 23W	+61 02	Fe Arc ND 1.0	W-15-1
42250T	Spot Cals for 42250, 52, 54-56.			15 min @	15V D4 3900	D3 4300	D2 +7.0		
42251	HD22468	03 34.6	+00 16	19 42	21 21	02 23 W	+00 39	Fe Arc ND 1.0	5-8-8
42251T	Spot Cals for 42251.			15 min	15V D3 4810	7V D2 H2	7V D2 54		
42252	HD86076	04 08.1	+09 58	21 29	22 44	03 09W	+10 17	Fe Arc ND 1.0	W-13-
42253	HD27462 (w Orion Neb)	05 39.7	-02 39	22 47	23 41	02 45W	-02 22	Fe Arc ND 1.0	-7-
42253T	Spot Cals for 42253, 57.			15 min @	15V D4 4100	D4	D4		
42254	HD [illegible] (Orion)	07 37 02 41.8	+29° -7 1900 +28° 52'	23 52	01 05	02 02W	+29 04	Fe Arc 1.0 1.0	20-20-2
42255	HD72208	08 24.5	+10 09	01 12	02 57	03 04W	+10 01	Fe Arc ND 1.0	16-17-
42255T	Strip Cals for 42253, 57.				180 sec				
42256	HD131511	14 48.9	+19 33	03 08	04 55	01 10E	+19 22	Fe Arc ND 1.0	W-14-
42256T	Strip Cals for 42250, 52, 54-56.				90 sec				
42257	HD139812	15 35.6	+26° 25'	04 58	06 55	00 05E	+26 50	Fe Arc ND Filter	1-7-
								1	

Spectr. Temp. 18°F ..... Dome Temp./Hum. 10°F / 63% Transparency Conditions good 256

Focus 903 - 80-B .....

Spectr. Temp. +3°F ..... Dome Temp./Hum. -3°F / 90% then ice crystals

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/90	6-8"	5.52	B2	G12	G12/0493	13/5	IIaD-e	A	Sp Bin - Ly	bad seeing & TW	fine
							"				
200/55	4"	67	G0 II	G1CR	G6/-75	13/5	092e-02	B	RSCVn	broken 2 pieces	fine
							"				
100/138	4-6	6 25	B8	G12	G12/0493	3/5	IIaD-e	A	Sp Bin - Ly	TV camera moved. Focus + Bob	fine gr. tilt? v sl wk gr tilt?
"/340	"	3 51	0 5E	"	"	"	IIIaJ-e	B	Sp Bin - Ly		
							"			"	
200/55	3-5	5 4	K1 III	G8	G6/-25	9/5	IIaD-e	A	NaK Bin - Ly		fine
"/112	4-6	6 52	M0	"	"	13/5	IIaD-e	B	Sp - Ly		fine
							IIIaJ-e				
400/160	3-4	6 84	dK1	G12	G12/498	13/5	IIaD-e	A	Atm Sp - KK		fine
							"				
"/324	3-4	4 E3	3 V	G12	G12/-495	3/5	IIIaJe	B	Sp Bin - Ds/Ly		fine
					IIaD	6"			18 161		
					IIIaJ		Dig 65°F		13 246		
					098	3½"			17 149		

257 Sat - Sun

Date Feb. 4-5/78. Observers J.h.-Bar.-Bk.....

Emulsion Batches:
Mod-e 2918-0126
Mod-e 2097-02028
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42258	HD 24760	03 51.1	+39 43	18 12	18 32	0 40E	+40 04	Fe-Ar none	9-11-12
42259	HD 222107	23 32.7	+45 55	18 37	19 08	4 13W	+46 29	Fe Arc ND 1.0	20-20-20
42259T	Spot Calib for 42259		-63.		15V@15m	D4 3900	D3 4300	D2 4310	
42260	HD 3627	0 34.0	+30 19	19 11	19 40	3 45 W	+30 51	Fe Arc ND 1.0	20-20-20
42261	HD 32002	4 55.6	+26 32	19 46	21-08	0 49 W	+26 45	"	14-14-14
42262	HD 71663	8 23.5	-2 11	21 12	22 26	1 20E	-2 20	"	14-14
42263	HD 71153	8 10.7	+24 52	22 32	23 50	0 07W	+24 44	"	11-13-15
42263T	Strip Calib for 42259-63				90sec				
42263T2	Spot calib High Speed Infrared film 15m @ 7V D2 Hα D1 Wr 25								
T3	" " IN-N plate, soaked 2hr H_2O + Methanol -7°C				15m @ 7V	D3 Wr 25	exp wtt		
T4	" " IN-N plate, soaked 2hr H_2O + Methanol + $AgNO_3$ (1:5000) -7°C				15m @ 7V	D3 Wr 25			

Spectr. Temp. +11°F ..... Dome Temp./Hum. +7°F / 62% Transparency Conditions ... Fine ... sl. haze ...

Focus ... 80-B .....

Spectr. Temp. ..... Dome Temp./Hum. ... / .....

Cloud by 0^h

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/120	2-3	2.71	Bas E	G8B	G16/1.25-	9/1.7	IIaJe	A	SB Tu		fine
200/133	"	V= 3.75	G8 [illegible]	"	"	9/1.5	IIaO-e	B	H&K Bin Ly		fine
200/180	2"	4.6	K3m	G8B	G16/1.25-	9/1.5	IIaO-e	A	Met Prog		fine
200/150	2-3"	7.24	G5	G12B	G12/1.49	13/1.5	"	B	"		fine
400/150	"	6.57	F0	"	"	"	"	A	"		fine
[illegible]/101	2"	8.2	G-	"	"	18/1.5	"	C	"	[illegible]	sl wk
							"				
Dec 9^m 65°F					IIaO	6^m Dif 68°F		19	168		
5^m 65°F					IIIaJ						
					all recent IIaO rather grainy						

Cloud by 0^h

259 Wed / Thur

Date Feb 8-9/78 Observers Kw.-Ri.-Kir. / Bh.-Ri

Emulsion Batches:
Tau-F 20077-04028
096 30093-02028
III-J 01106-29018

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp Mtr
42264	HD22468	3h 34.6	0°16	18:21	19:48	01 00W	00 36.8	Fe Arc ND 1.0	4-14	4
42264T1	spectral hr plate 42264				15 min	15 D3 48 10	30 D1 H2	TV		
42265	HD30282	04h 46.1	+36°32.6	20:05	22:43	02 55W	16° 46.7	Fe Arc ND 1.0	7-6	3
42265T1	spectral hr plate 42265	67 +69			15 min @ 15 Volts	D4 3900	D3 4300	V D2 +2 10		
42265T2	step cal hr plate 42265	67 +69			90 sec					
42266	HD45212	06h 32.1	+30°33.3	22:51	03:34	02h 05W	+30 34.8	Fe Arc ND 1.0	7-14	
42267	HD88021/2	10h 03.8	+20°49	23:38	02 23	01 12W	120° 30'	Fe Arc ND 1.0	14-14	
42269	HD139892	15h 35m 37s	+36° 58'	02:28	04:11	02° 29E	+36° 47'	Fe Arc ND 1.0	7 7	
42268T1	spectral hr plate 42268+70			15 min @ 15 Volts		D4 4100	D4 4300	D4 4810		
42269	HD147835	16h 19m 56s	+32° 34'	04 16	05 23	02 00E	+32° 28'	Fe Arc ND 1.0	4-14	
42270	HD141513	15h 49m.4	−03° 07'	05 32	06:50	00°01W	− 3° 15'	Fe Arc ND 1.0	8	1/2
42270T1	step cal hr plate 42270+70				180 sec					

Spectr. Temp. ..22°F..... Dome Temp./Hum. ~~7°C~~ 6°C 68% Transparency Conditions ..good all but the cirrus at 2:00 in the S 260

Focus ...../60.R.....

Spectr. Temp. ..... Dome Temp./Hum. -13°C.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4 cc/140	3-4	6 cc	G0I	G16 R	G16/.498	13/5	098-02e	A	RSCMn/Fuji		Fine
							098-02e				
3 cc/360		7.9 - 8.8	F6 - G1	G12	G12/.498	30/.5	IIaOE	B	Ceph/Evans		Poor Fine
							Fa0-E				
							Ha0-E				
100/100		5.3 -	F1 - G0	G12	G12/.498	13/.5	IIaOE	A	Ceph/Evans		Fine
100/250		7.20	9G5 + 2	G12	"	13/.5	IIaOE	B	VB/Blue		Fine
/633		4.35	B7I	G-12	G12/.498	13/.5	IIIaJ-F	A	SB-Blue		Fine
							IIIaJ E				
/140		6.18	A3V	G-12	G12/.498	13/.5	IIIa O	B	SB-Blue		Fine
/402		3.50	A0V	G8	G8/.25-	9/.5	IIIa JE	A	S13-Blue		Str
							IIIaJ E				
				098 4m			26 176				
				IIIaJ 6m			H 256				
				IIaO 6m			20 175				

261

Date Thurs/Fri Feb 9-10/78. Observers Lne-Ri-Bar/KK-Ri

Emulsion Batches:
~~Tech E. 20077-04028~~
098 02F 30097-02028
~~Tech 2. 01106-29018~~

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
42271	HD 10260	01 35 15	+60 32	18:16	19:01	2h 22W	+61° 01	Fe ARC ND 1.10	14-14
42272	HD 27192	04h 12.6	+50°41'	19:07	19:21	0h 04W	+50°57	"	14-14
42271	spectral fr. plate 42271,72,75-78,80-83.			15 min @ 15 Volts		D4 3800	D3 4700	D2 4810	
42273	HD 224668	3h 31.6	0° 16	19:30	20:17	01h 43W	+00°38	Fe arc ND 1.10	9-4.5
42271	spectral fr. plate 42271,72,75-78,80-83.				90 min				
42273	spectral fr. plate 42273.			15 min		15V D3 4810	7V D1 42	7V D2 5450	
42274	HD 27468 (σ Ori AB)	05h 33.7	-02°39'	20:23	20:49	00h 13W	-02° 29	Fe ARC ND 1.10	7-7
42275	HD 27192	04h 12.6	+50°41	20:53	21:08	01h 51W	+50°58	Fe ARC ND 1.10	14-14
42276	HD 266776	04 0806	+9° 58	21:15	21:57	02h 46W	+10° 16	"	14-14
42271691	spectral fr. plate 42274,79			15 min @ 15 Volts		D4 4100	D4 4800	D4 4810	
42277	HD 34364 (NR NLR)	05h 11 8	+33°39'	22:00	22:29	02h 14W	+33°50	Fe ARC ND 1.10	14-14
42278	HD 56021/2	10h 03.8	+20°49'	22:34	00:56	00h 09E	+20°33	"	14-14
42279	HD 43705	06 31.9	+16°39'	01:00	01:15	03h 41W	+16°33	"	7-7
42280	HD 103095	11 47 2	+38 26	01:20	02.43	00h 05E	+37 59	"	14-14
42281	HD 121370	13 49.7	+18° 54'	02:46	02 55	01h 51E	+18° 39	"	14-14

Spectr. Temp. ...20°F..... Dome Temp./Hum. -07°C 55% Transparency Conditions ...excellent... 262

Focus .....90 B.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/90	2-3	5.58	B8	G12	G12/.49B	13/1.5	IIaO-E	A	Sp Bir-Ly	clods	
410/155	2-3	5.50	B3IV	"	"	13/1.5	IIaO-E	B	Sp Bu-Lu		
							IIaO-E				
400/141		6.68	G0II	G16R	G16/.7B	13/1.5	098-02	A	RSCyn/Fgi		fine
							IIaO-E				
							098-02E				
300/346	2-3	3.51	O9.5V	G-12	G12/.49B	13/1.5	IIIaJ-E	B	Sp Bu - Blu		sl str
400/140		5.50	B3IV	"	"	"	IIaO-E	A	Sp Bu - Lue		
450/140		6.21	B8	"	"	"	"	B	S B Ly		fine
							IIIaJ-E				
400/140		5.82-6.49	Vp	G-12	B12/.49B	13/1.5	IIaO-E	A	Fe/Bu-Blu		fine
400/250		7.20	g5+B2	G-12	G12/.49B	13/1.5	IIaO-E	B	UB - Blu	emiss cloud around	fair
410/70		1.9	A0V			9/1.5	IIIaJ-E	A		"	fine, but scintillation
400/180		7.20	B8III			13/1.5	IIaO-E	B		"	
200/103		3.7	F0	"	"	9/1.7	IIaO-E	A			

263 #2

Date Fri. 9.6.10 1978 Observers hh-Ri

Emulsion Batches:
IIaO-E 20077-04028
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42282	HD 122742	13 58.6	+11 16	02'58	04:32	00h25E	+11°00	Fe arc UV 1.10	14-M
42283	HD 131511	14 48.9	+19 33	04:35	05:28	00h21E	+19° 21	Fe arc ND 1.10	14 14-M
42284	HD 139006	15 30.5	+27 03	05:34	06:28	00h02E	+26°53	Fe arc UV 8	10-10.10
42284T	Spot calibration	HSI	15h @ 7v	D1 UV 25	D2 Hd				
42285	HD124897(α Boo	14 11.1	+19° 42'	06:32	06:35	01h23W	+19°24	Fe Arc UV 8	20

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

Focus ..... 9.0B .....

Spectr. Temp. ..... 18°F ..... Dome Temp./Hum. ..... 10°C 91%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60/170	2-4	7.0	G8V	G12	G12/.49B	13/5	IIaOe	B	Asm-Sp KK	clouds on + off	fair
00/180	2"	6.84	dK1	G12	G12/.49B	13/5	IIaOe	A	Asm-Sp KK		fair
00/260	2"	2.21	AOV	G24I	G12/49B	13/5	HSI	B	Asm-Sp KK	clouds again V filter bet. slit & fore	fair
							"		"		
m/110		1.29	K2III	G24J	G12/.6B	K/F	HSI	A	Std Vel	V filter in front of slit	strong
				IIaO 6m			22 173	all	IIaO's have fogging emulsion (deposition coating!)		
				HSI 11m		Dig 68°F	20 191				
				098 4m			26 175				
				IIIaJ 6m			15 254				

265

Qua/Mon

Date Feb 12-13 Observers Lne-Ri/

Emulsion Batches:
IIaO-R 20077-1002P
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42286	HD 60044 (6(m))	7h 37.0	+29 07	23:51	00:59	02h 30w	+29 01	Fe arc W=11	30s 2026
42286m	Emp cal for plate	42286							

Spectr. T
Focus ...
Spectr. T
Exp. Mtr.
20s /12

Spectr. Temp. 280F Dome Temp./Hum. 05°C Transparency Conditions

Focus 90R

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/120	3-4	5.4	KIII	68	68/1.25=	9/5	IIa-0	A	Ly-H+K Bin	cloud moved in	fair
				6m D19	68°F	22	178				

267

Mar-Nov

Date Feb. 13-14. 1978 Observers B.Y.-R.

Emulsion Batches:
IIaO-E 20.077-.10028
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42287	HD 51418	06 52.2	+42° 26'	21 36	00 53	0313 W	+42° 25	Fe Arc ND.1.10	14-14-F
4228791	spectral for plates	42287-89			15 min @ 15 Volts	D4 3900	D3 4300	D2 4810	
4228792	step cal for plates	42287-89			90 sec				
42288	HD 96003	10 59.3	+13° 12'	20 59	04 44	02 59W	+12 51	Fe Arc ND.1.10	14-14-F
42289	HD 205139	21 28.3	+60 01	05 13	06 11	0601E	+60 2[illegible]	"	14-13-F

Spectr. Temp. 24°F Dome Temp./Hum. -09°C 72% Transparency Conditions good 268

Focus O.R.

Spectr. Temp. Dome Temp./Hum. -16°C 80% the ocean was all of the world

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/150	8-10	6.61	AO	G-12	G12/.490	9/.5	IIaO-E	A	Ap-MR		fine
							IIaO-E				
							IIaO-E				
400/150	THE PITS	6.75	Ap	G-12	G12/.490	9/.5	IIaO-E	B	Ap-MR		
400/140	"	5.3	cB1	G-12	"	13/.5	"	A	B-TYPE STD.		
					6m DIS	68	F 22	178			

269

Tues Wed

Date Feb 14-15 1978 Observers Bel-Ri

Emulsion Batches:
IIaO-E 20077-10028
IIaO-E 20077-14028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42290	HD 26571	04h 7.0	+22° 09′	18 21	19: 10	00h 20W	+22° 27′	Fe ARC ND 1.10	14-14-10
4229071	spectral fn plates 42290-93				15mm @ 15 Volts	D4 3900	P3 4300	D2 4810	
4229072	step cal fn plates 42290-93				90sec				
42291	HD 34347	05h 13.2	+13° 29′	19 13	21: 16	01h 20W	+13°36	Fe ARC ND 1.10	14-14-10
42292	HD 41256	06 32.6	+27 53	21 20	00:00	02 44W	+27°57	Fe ARC ND 1.0	14-14-4
42293	HD 96003	10h 59.3	+13°12	00 04	02:05	00:24 W	+13°52	Fe ARC ND 1.10	14-14-4
42294	HD 128406	15 26.6	+62 05	02 12	04 06	01 58 E	+61°51	"	1-14-10
42295	HD 137182	15 19.5	+10 54	04 12	06 08	00 08W	+10 42	"	1-1-14-10
4229571	spec cal fn plates 42294-96				15mm @ 15 Volts	D4 3900	P3 4300	D2 4810	
4229572	step cal fn plates 42294-96				90sec				
42296	HD 143851	16 25.9	+2 12	06 11	06:25	00h 43E	+02°10′	FE ARC ND 1.1	14-14-
42296F	dk G12	30s in	30s out	F = .968	Sp T = 16°F			Fe arc no filter	30, 30
42297	SKY	HA = 0	−15°	14 33	14 46	2 [illegible]		Fe arc no filter	30s
42298	SKY	"	"	14 52	15 03	2 [illegible]		"	"
42299F	new G12	21 55.9	−12 35	F = .118	Sp T = 5°F				

Spectr. Temp. ..16°F..... Dome Temp./Hum. -10°C....58% Transparency Conditions GOOD → V. HAZY → GOOD

Focus .....908.....

Spectr. Temp. .12°F..... Dome Temp./Hum. -15°C....85%

270

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/140	2-3	6.11	B8	G-12	G-12/.490B	9/.5	IIaO-E	A	Ap-MR		Fine
							IIaO-E				
							IIaO-E				
40/140	2-3	7.5	B9	G-12	G-12/.498	13/.5	IIaO-E	B	Ap-MR		Fine
40/140		7.26	A3	"	"	"	"	A	Am MR	V. HAZY Plate no. 93	Fine
40/140	3-4	6.75	Ap	"	"	9/.5	"	B	Ap-MR	BROKEN 2 PIECES Plate no 92	Fine
40/140		6.71	A0	"	"	"	IIaO-E*	A	Am MR	BROKEN 2 PIECES	Fine
40/140	3-4	7.19	A0	"	"	13/.5	"	B	Am MR	BROKEN 2 PIECES	Fine
							"				
							"				
30/73		3.86	A1V	G12	G12/.498	9/.5	"	A	Bln Bright Bin	BROKEN 2 PIECES	Fine
						9	IIIaJ	B			
40/400				G12	G12/.498	9/.9	IIIaJ	B		ND 1.10 in front of slit	ok
40/300				New G12	NG12/.498	9/.9	IIIaJ	B		"	
				New G12	"	9/.9	"				

271

Emulsion Batches: .....

Date Wed Feb 15 cont. Observers KK .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42299	sky	0 HA	−15°	16:45	17:10			w8	60
42299F1	old G12							none	30-30
42299F2	new G12							none	30-30

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 272

Focus ..... 96 B .....

Spectr. Temp. ..... 20° F ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/100				G130	G43/.47B	9/.9	IV-N	A	test	V filter in front of slit Unsensitized	
				G12	G12/.49B	9	IIIaJ	B			
				new G12	new G12/.6B	9	IIIaJ	B			
					IIa0	6m Dig	65°F	16	161		
								16	156		

273

Wed - Thurs

Date Feb. 15 - 16 1978 Observers R.m.-T.m.

Emulsion Batches:
098-02E 30697 - 02028
IIaO-E 20077 - 14028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42300	HD 12468	3h 31.6	0° 16	18:27	19:29	0 19 W	0 [illegible]	[illegible]	4+4
42301	HD 45542 = NT Aur	6h 22.1	30° 33.3	19:41	20:26	0h 35 E	+30 [illegible]	Fe + ND 1.0	14+-
42301T	Spot Calib for 42300			15 min @	15 V D3 48:0	70 01 Hα	7 V D 5450		
42301F	Focus Test	G12 "Old"						None	[illegible]
42302	HD 45542	6h 22.1	30° 33.3	20:33	21:14	0h 13 W	+30 [illegible]	Fe Arc ND 1.0	12-15
42302F	Focus Test	G12 "New"							5 15
42303	HD 62509 - B8 III	07h 39.2	+28° 16	21:21	21:23	0h 55 E	+28° 15	Fe Arc ND 1.0	18-1
~~42304~~	HD 46595	06 29.2	+15 25	21:33	W		+15 29	Fe Arc ND 1.0	14
42303T	Spot Calib for 42301→3			15 min @	15V D4 3900	D3 4300	D3 4810		
42303F	Focus Test	G12 "old"						None	5 15

Spectr. Temp. 20°F..... Dome Temp./Hum. 20°F../80% Transparency Conditions ..thin cloud.....

Focus ....96-B.....

Spectr. Temp. 20°F..... Dome Temp./Hum. ..16°F../85%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/14	1.2	4.8	GG	G16R	G16/.7B	13/1.5	098 02e	A	RS Ch/Fqi		sl str
/.83	1"	3-4	FI-GG	G12	G12/.49b	13/1.5	IIaOE	B.	Ceph/Evans		fine
1 in / out + out +				G12	G12/.49b	13	IIaO	B	20°F set	96-B	
40/136	1-2"	5-6 5	FI-GG	G12 new	G12/.65B	13/1.5	IIaO-E	A	Ceph/Evans	New Grating	vel str
/ out out				G12 new	"	13	IIaO	B	20°F set	96B	
40/16	2	2.15	KO	"	"	13/1.5	IIaOb	A	Std Vel		sl. str
40	1-2"	2-8	FG-G5	G12 old	G12/.49B	13/1.5	IIaO E	B	[illegible]/Evans	cloud	
in/out out				G12 old	G12/.49b	13	IIaO	B	20°F set	96B	
									Strip	Calib no work	
				IIaO	5½m	D9	68°F	18	181		
				098	4m			26	166		

275

Date Fri-Sat Feb 17/18/74 Observers Fgi.-Tn. / Blm.-Tn.

Emulsion Batches:
098-02E 30097 - 02028
IIaO-E 20077 - 14028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42304	HD 22468	3h 31.6	+0° 16	18:30	19:56	01:52 W	+0° 42.1	Fe Arc NO FILTER	4-4-
42305	HD 22468	3h 31.6	+0° 16	19:57	21:43	03:39 W	+0° 42.1	Fe Arc NO FILTER	4-4-
42305T	Spot Calib for 42304-06				15 min @	D3 15V 4810	D1 7V D2 Hα 54	7U 50	
42306	HD 65626	7h 54.5	+57° 33	21:49	23:35	01:05 W	+57° 29	Fe Arc NO FILTER	4-4-4
42307	HD 88021/2	10 03.8	+20 49	23 44	01.59	01.24 W	+20 35	Fe Arc ND 1.0	1 3/4
42307T	Spot Calib for 42307			15 min @ 15V		D4 3900 D3 9300	D2 4810		
42307T	Strip Calib for 42307				90 sec				

arc electrodes erroneously replaced with Nonferrous Steel

Spectr. Temp. 23°F ..... Dome Temp./Hum 7°F/72% Transparency Conditions ..... good/..=sl hazy..=cloud

Focus ..... 96.B .....

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Counts (new G12) = 60% Counts (old G-2) 276

Comparison Type/Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe Arc No Filter	400/125	2-3"	6.68	GOI	G16R	G16R/1.78	13/1.5	098-02-e	B	RS CVn/Fgi		comp in fine
Fe Arc No Filter	400/128	2-3	6.68	GOI	G16R	G16R/1.78	13/1.5	098-02-e	A	RS CVn/Fgi	much haze	sl thr
								"				
Fe Arc No Filter	400/140	3"	7.1	GO	G16R	G16R/1.78	13/1.5	098-02-e	B	RS CVn/Fgi		fine
	400/130	3"	7.2	gG5 + A2	G12(New)	G12/1.65B	13/1.5	IIaO-E	A	VB B/n	Focus 88B from 96B thin cloud - cloudy	fine
								"				
								"				
						IIaO	6"	Dif	68°F	20	190	
						098	4"			29	190	

277

Sat-Sun

Date Feb. 18-19, 78 Observers B.K.-T.m

Emulsion Batches:
IIaO-E 20077-14028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Ex
42306	HD 71663	6 23 5	-2 11	20 31	21 57	0 54E	-2 30	Fe Arc ND 1.0	13-13
42308T	Spot Calc for	42308			15m @ 15V	D4 3900	D3 4200	D2 4810	
42309	HD 71152	8 10 7	+24 52	22 00	00 05	1 16W	+24 36	Fe Arc ND 1.0	13-12
42310	HD 87822	10 02 5	+32 06	00 08	01 07	0 37W	+31 40	"	12-12
42311	HD 101177	11 33 5	+45 40	01 35	03 00	1 00W	+45 10	"	13-13-10
42311T	Strip Calc f.	42308-14			90 sec				
42312	HD 103483A	11 49 9	+47 02	03 03	03 57	1 41W	+46 34	Fe Arc ND 1.0	13-13
42313	HD 103483B	"	"	04 02	05 25	3 09W	"	"	13-13
42314	HD 124674	14 09 9	+52 16	05 27	06 35	2 01W	+51 51	"	13-13

Spectr. Temp. 20°F..... Dome Temp./Hum. 16°F / 91% Transparency Conditions ..Clear..by..20:30..Fine...

Focus .....8.8B.....

Spectr. Temp. 10°F..... Dome Temp./Hum. 4°F / 99% kk plates are too thin for Exp B

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/120	3"	6.6	F0	G12 New	G12/65B	13/15	IIaO-E	A	Wat Prog		fine dbl lines
	Lot 4 x 5			Too big & shattered			"				
400/120	23	7.2	A3	G12 New	G12/65B	13/15	"	B	Wat Prog	SW of Pair Looks like Pair to?	fine spec=F?
400/120	3"	6.6	F5	"	"	13/15	"	A	- " -		fine
200/240	3	6.9	G0	"	"	13/15	"	B	"		fine
							"				
180/90	3-4	6.5	A0	G12 New	G12/65B	13/15	IIaO-E	A	Wat Prog	?? maybe blank	blank
220/110	3"	7.0	2	"	"	13/15	"	B	"		fine
210/105	3-4"	6.6	F0	"	"	13/15	"	A	"		fine
							6" D19 68°F				

279

Date Feb 19/20 78/SUN-MON Observers Fgi.-Tn./Bln-Tn.....

Emulsion Batches:
.O.9.8-02E.30097.-.18028
.IIa.O-E....20077.-.15028
.IIIa.J-E....01106.-.10028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42315	HD 22468	03h 31.6	+0° 16	18:32	20:22	02:27 W	+0° 39	Fe Arc NO FILTER	4-4
42315T	Spot Calib for	42315-17		15min @	15V D3 4810	7V Ha	D1 7V D2 5450		
42316	HD 65626	07h 54.5	+57° 33	20:27	22:07	00 13E	+57 27.9	Fe Arc NO FILTER	4-4
42317	HD 65626	07h 54.5	+57° 33	22:07	00:38	02 18 W	+57 27.9	Fe Arc NO FILTER	4-4
42318	HD112028	12h 48.3	+83° 58'	00:48	01:29	01 46 E	+83° 39'	Fe Arc NO 1.0	13-13
42318T	Spot Calib for	42318, 21, 23-25.		15min @	15V D4 3900	D3 4300	D2 4810		
42319	HD106677	12h 11m.0	+73° 07'	01:34	02 47	00 12W	+72° 48'	Fe Arc No F. 1.0	4-4
42320	HD113216	13h 30m.3	+37° 42'	02:55	03 29	00 23E	+37 25	Fe Arc No F. 1.0	4-4
42321	HD 124897	14h 11m.1	+19° 42'	03:36	03 37	00 56E		Fe Arc ND 1.10	20-[illegible]
42322	HD 139892	15 35.6	+36 58	03 43	04 45	01 12E	+36 51	Fe Arc ND 1.0	6-6
42322T	Spot Calib for	42322		15min @ 15V	D4 4100	D4 4300	D4 4810		
42323	HD151676	16 43 42	-15 30	04 50	05 30	01 36 E	-15° 29'	Fe Arc ND 1.10	13-13
42324	HD 151 676	16 43 42	-15 30	05 31	06 04	01 02E	-15° 29'	Fe Arc ND 1.10	13-13
42325	HD 151 676	16 43 42	-15 30	06 05	06 33	00 33E	-15° 29	Fe Arc ND 1.10	13-13
42325T	Strip Calib for	42318, 21, 23-25.		90sec					
42325F	Focus							[illegible]	4-[illegible]

Spectr. Temp. +18°F ..... Dome Temp./Hum. 18°F / 64% Transparency Conditions .Sl. Hazy. - cloud..... 200

Focus .... 828 .....

Spectr. Temp. + ... Dome Temp./Hum. 17°F / 92%

Reset ST on Console - 1 min

This is correct as forces HA circle

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		400/140	1"	6.63	G0 II	G16R	G16R/.78	13/1.5	098-02-e	A	RS CVn/Fg	thin - cloud	v sl str
									"				
		400/139	1"	7.1	G0	G16R	G16R/.78	13/1.5	098-02-e	B	RS CVn/Fg	hazy	f
		400/140	1-2"	7.1	G0	G16R	G16R/.78	13/1.5	098-02-e	A	RS CVn/Fg	clouds	v sl str
		400/86	3"	5.2	A0	G12(New)	G12/.65B	13/1.5	IIaO-e	B	Shell-Bln	New G12 ~12 SI S	
									IIaO-e				
		400/140	1-2	7.[illegible]	K0	G16 Red	G16/.78	13/1.5	098-02E	A	RS CVn/Fg		f
		40/13	"	5.33	K2 III	G16R	G16/.78	13/1.5	098-02E	B	RS CVn/Fg	Ft. Red comparison	fair
		40/18		1.29	K2 III p	G12 new	G12/.65B	13/1.5	IIa-0E	A	Std. Vol.		sl str
		200/200		4.95	B7 V	G12 new	G[illegible]/.65B	13/1.5	IIaJ-E	B	Sp Bln/Lg	Broken 2 jaws,	v sl str comp strong heavy Wavelay
									IIaJ-E				
		400/95	1-2"	6.19	A3	G12	G12/.65B	17/1.5	IIa-0E	A	Ecl. Bva-Bln		f
		400/83	2"	6.19	A3	G12	G12/.65B	17/1.5	IIa-0E	B	Ecl. Bva-Bln		f
		400/85	1-2"	6.19	A3	G12	G12/.65B	17/1.5	IIa-0E	A	Ecl. Bva-Bln	IIaO 6m 20 168	f
									IIa-0E			018 4m 23 169	
						G12 N	GE-SB		[illegible]	B	[illegible]	III 16m 15 252 Temp ? ?	

281

Date Feb. 21-22 Tues-Wed Observers Eg. Tu-But

Emulsion Batches:
098-02E 30097-18028
Ila-e 20577-20028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42326	HD 22468	03 31.6	+0° 16	18 35	20 00	2 14 W	+0 30	Fe Arc none	4-4-4
42327	HD 22468	03 31.6	+0° 16	20 01	22 02	4 16W	+0° 30	Fe Arc No FILTER	4-4-4
42327T1	Spot Cals for 42326-27			15 min @	15V D3 4810	7V D1 Hα	7V D2 4650		
42327T2	Strip Cals for 42326-27			90sec					
42327F	Focus Test								6/5
42328	HD 51418	06 52.2	+42 26	22 17	23 59	2 50W	+42 25	Fe Arc ND 1.0	11-10
42328T	Spot Cals for 42328-	30		15 min @ 15V		D4 D3 3900 4300	D2 4810		
42329	HD 96003	10 59.3	+13 12	00 05	02 31	01 17W	+12 99	Fe Arc ND 1.0	11-8
42329T	Strip Cals for	42328-30				90sec			
42330	HD 138406	15 26.5	+62° 05'	02 38	05 33	00 05E	+61 51	FE ARC ND 1.1	9-9

Spectr. Temp. .20°F..... Dome Temp./Hum. +16°F/.67%. Transparency Conditions . some thin cloud.....

Focus ....88B.....

Spectr. Temp. +11°F..... Dome Temp./Hum. +7°F/.88%. tilt on new G12 should go to .70 good T_7

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/125	2-3'	6.68	G0V	G16 Red	G16/.78	131.5	098-02E	A	RSCV$_a$/F$_{3a}$	Reversed	
100/131	3	6.68	G0V	"	"	"	"	B	"		
							"				
				— = =	=	—	"				
6/5 1min	-out	out		G16 Red	G16/.78		"	B	Set 88B	Temp	
20/105	3-4	6.61	A0	G12	G12/.78	91.5	IIa0-E	B	Ap MR		Fine
		—					"				
/110	3-4-8	6.75	Ap	G12	G12/.78	91.5	IIa0-E	A	Ap MR		V slit
							IIa0-E				
-/93	8-10	6.79	A0	G12	G12/.78	91.5	"	B	Am MR	Thin cloud	Slit
	—										
				098-02		23	183				
				IIa0		19	196				

283

IIaO-E 20077-22028
IIIaJ-E 01106-10028

Date Feb 22-23 Wed-Thu Observers R.M.-T.M./W.-T.

Emulsion Batches:
098-02E 30077-18028 no 4x5
098-02E* 30077-22028
IIaO-e 20077-20028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42331	HD22468	3h 31.6	0° 16	18 35	19 16	01 33W	+00h 28.1	Fe Arc none	4-4-4
42332	"	"	"	19 18	20 : 29	02h 47W	"	"	7-7-7
42333	"	"	"	20 30	21 : 39.	0356W	+00 29	"	6-6-6
42333T1	Spot Calc for	42332-33			15 min @ 16V 4810	D3 8VD1 Ha	8VD2 5420		
42333T2	Strip Calc for	42332-33			120sec				
42333T3	Strip Calc for	42331			90sec				
42334	HD21491	9h 48.2	+24 14	23:35	23:43	00h 9m E	+23° 599	Fe Arc none	9-9-9
42335	HD [illegible]	10 08.8	+20 49	23:45	02:00	01 46W	+20 33	Fe Arc none	7-8-7
42335T	Spot Calc for	42334-36		—	15 min @	15V D4 3400	D3 4300	D2 4810	
42336	HD114346	13h 08m 06s	-18° 18'	02 06	04 28	01 09W	-18° 36'	Fe Arc NONE	7-7-7
42337	HD124897	14 11.1	+19 42	04 33	04 37	0 16W	+19 26	"	14-11
42338	HD139892	15 35.6	+36 58	09 44	05 21	0 23 E	+36 48	Fe Arc none	3-3-3
42338T	Spot Calc for	42338-39			15 min @ 15V	D4 4100	D4 4300	D4 4810	
42339	HD141513	15 44.4	-3 07	05 28	06:09	0015W	-3 14	Fe Arc none	7-8-8
42340	HD124897	14 11.1	+19 42	06 14	06 17	0155W	+19 27	Fe Arc NONE	25-25

Spectr. Temp. +20°F ..... Dome Temp./Hum. 20°F / 17% Transparency Conditions Fine ... occasional cloud 28

Focus ... 88B .....

Spectr. Temp. +13°F ..... Dome Temp./Hum. 17°F / 95% ** All Fe Arcs contaminated

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/110	1-2	[illegible]	G5I	G16R	G16/.75	13/1.5	098-02E	A+B	RS CV [illegible]	**	
400/170	2"	"	"	"	"	13/1.5	098-02E*	A	"	** Comp Plate	v sl str
"/111	2"	"	"	"	"	13/1.5	098-02E*	B	"	"	fine
							098-02E*			"	
							098-02E*			"	
							098-02E			** sm cloud	
200/63	2	3.1	[illegible]	G12 new	G12/.7	9/1.5	IIaO E	A	Copt-E		F
400/130	1-2+	1.2	365 +A2	"	"	13/1.5	"	B	VB Cln	some haze · seeing poor	Fine
							"			wisp	
400/110	Ptg shook	6.27	A0	G12 new	G12/.7	13/1.5	IIaO E	A	SB-Bln	South of plate Br Comp 7 yrs	fine but v sl wk
"/28	OK	1.29	K	"	"	9/.9	IIaO-E*	B	std vel		Fine
200/135	2"	4.95	B7V	"	"	13/1.5	IIIaJ-E	A	SE Emily	SE Comp	fine
							"			IIaO 5½ 18 186	
400/230	3"	3.50	A0V	G8	G16/-.25	9/1.5	"	B	SE Cln	IIIaJ 5½ 15 251	Fine
400/40	"	1.1	K	"	"	9/.9	IIaO-E*	A	std vel	098 3½ Dy Wt	
										098* 5½ 22 228	Fine

285

Emulsion Batches:
098-02E 30097 - 22028
IIaF-E 23117 - 23028

Date Feb 25-26 Sat-Sun 17-8 Observers Tu-Blo-Fgi

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42341	HD 22468	03 31.6	+0 16	20 20	22 02	04 33 W	+00 33	Fe Arc None	4-4-4
42341T	Spot Calib for	42341		15 min	15V D3 @ 4810	7V D1 Hα	7V D2 5450		
42342	HD19356 (β Per)	03h01.7	+40° 34	22 12	23 02	06 01 W		Fe Arc None	II-V-II
42342T1	Spot Calib for	42342		15 min @ 7V	D4 5100	D2 Hα	D3 5450		
42342T2	Strip Calib for	42341			90 sec				
42340A	HD 22484	03 31.8	+0 05	20 08	20 18	2 49 W		Fe Arc None	4
No Plate		return to (correct) iron electrode in arc							

Spectr. Temp. 22°F Dome Temp./Hum 24°F / 80% Transparency Conditions ... Sl hazy ... some cloud

Focus ... 88-B

Spectr. Temp. 21°F Dome Temp./Hum 12°F / 85%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/92	4"	6.68	G0 V	G16R	G16/.7B	13.5	098-02E	A	R Cyg Eyi	Reversed / unstable	fine
40/ ?		2.2V	B8 V	G16R	G16/.7B	9/9	IIIaF-E	B	Zl-Algol	UV filter above slit	sl wk comp wk
							IIIaF-E				good
							098-02E				
		4.9	F8 V	G16R	G16/.7B	13.5	098-02E	B	auto	Taken before 4234 sunset very hazy	ok
					IIIaF	4m	Dry 69°F				
					098						

Comparison Type/Filter Exp.

287

Date Feb 26-27 Sun-Mon Observers Lne-Tn

Emulsion Batches:
098-02 E 30097-22028
II-a-0-E 20077-20028

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42343	HD 22468	3h 31.6	0° 16	18 40	19 42	2:09 W	+00 29	Fe arc Plate	4 4
42343T1	Spot Calib for 42343				15 min @	15V D3 4810	7V D1 Hα	7V D2 5450	
42343T2	Strip Calib for 42343				90 sec				
42344	HD 27192	04h 12.6	+50° 41'	23:32	00 12	6 03 W	+50 53	Fe arc N 110	8-8-8
42345	HD 112028	12 48.3	+83 58	00 21	01 08	1 33 E	+83 31	Fe Arc N 110	88-8
42345T1	Spot Calib for 42344-46,				15 min @	15V D4 3900	D3 4300	D2 4810	
42345T2	Strip Calib for 42344-46.				90 sec				
42346	HD 88021/2	10 03.8	+20° 49'	01 14	03 44	3 48 W	+20 27	Fe Arc N 110	8-9-8

Spectr. Temp. +26° F ..... Dome Temp./Hum. +20° F / 66% Transparency Conditions Excellent (not for long) 288

Focus ..... 0 ..... changed from 868

Spectr. Temp. +16° F ..... Dome Temp./Hum. +9° F / 97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40C/57	3-5"	6.68	G0 V	G16R	G16/.78	13/1.5	098-0E	A	RSCVn-Tqi	much cloud & snow	fine
							"				
							"				
100/100	3"	5.50	B2 IV	G12	G12/1.7	13/1.5	IIa-0	A	SB2-Lne		fine
4-/102		5.2	138	G12	G12/1.7	13/1.5	IIa-0E	B	Shell-Blu	Consider P? 12 51.6 +26 mod cloud S/SNOW R	V. fair
20/78	3-4'	7.20	9G5+ A2	G12	G12/1.7	13/1.5	IIa-0E	A	VB-Blu	RA 10 OK mod Much Cloud	
							098 4m	69°F			
							I120 6m	68°F			

284

Date Feb 28-Mar 1, Tues-Wed. Observers Zd-T.m.....

Emulsion Batches:
W a F-E 23117 - 23028
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42347	HD 19356 (Spec)	03 01.7	+40 34	18 40	19 30	02 41 W	+40 48.4	Fe Arc UV Filter	14-25
42348	"	"	"	19 34	20 13	03 24 W	"	"	14-14
42348T	Spot Cals for 42347-49,			15 min	@ 7V	D4 5100	D2 Hα	D3 6450	
42349	HD 19356	03 01.7	+40 34	20 15	20 58	04 08 W	+40 48	Fe Arc UV Filter	14-14

Spectr. Temp. 23°F ..... Dome Temp./Hum. +20°F/70% Transparency Conditions Hazy to cloudy 290

Focus ..... O.R .....

Spectr. Temp. ..... Dome Temp./Hum. ...../.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/50?	2-3	2.2 v	B&V	G16 Red	G16/0.7B	9/9	IIIaF-E	A	2d-Algol	* Reversed · no Exp meter	comp wk sl wk
400/150?	"	"	"	"	"	9/7	"	B	"	* cloud? " "	wk
									* Just obscuring slit in partial way Exp meter still problem?		v sl wk
45/34?	1-2'	2.2V	B&V	G16 Red	G16/0.7B	9/7	IIIaF-E	A	2d Algol		wk
						IIIaF	5m	D19	68°F	II 200	

291

Date Mar. 2 Wed/Thurs Observers Rm-Ri / Bln-Ri

Emulsion Batches:
098-02. 30097-22028...
IIaO E. 30097-22028...
IIIa J. E. 01106-23028...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
42350	HD 22468	3h 31.6	0° 16	18:46	20:22	03h:07 W	+00°36.9	Fe Arc Nd 1.10	7-4-4
4235091	spectral for plate	4 2350		15 min		D3 150 4810	D170 Hα	D270 5450	
42351	AW Per = HD30282	4h 41.1	+36° 32.6	20:32	23:30	05h 06 W	+36° 47	Fe ARC ND 1.10	8-8-8
+2351/1	spectral for plate 42351-54, 56				15 min @ 150 Volts	D4 3900	D3 4300	D2 4210	
42352	ε Leo = HD84441	9h 40.2	+24° 14	23:35	23:43	0h 19 W	+23° 57	Fe Arc ND 1.10	8-8-8
42353	HD88021/2	10h 03.8	+20° 29	23:46	02 28	02 21 W	+20° 32'	Fe Arc ND 1.10	8-8-8
4235371	strip cal for plates 42351-54, 56				90 sec				
42354	HD114946	13 08 06	-18 18	02 12	04 05	01 15 W	-18° 37'	Fe Arc ND 1.10	7-7-7
42355	HD139852	15 35 37	+36° 58'	04:11	04 54	00 23 E	+36° 42	Fe Arc ND 1.10	3-3-3
4235571	spectral cal for plate 42355 + 57				15 min @ 150 Volts	D4 4150	D4 4300	D4 4810	
42356	HD163506 (89 HER)	17h 51.4	+26°04	04.58	05 38	01 55 E	+26°07	Fe ARC ND 1.10	8-8-8
42357	HD164284	17h 55 19	+9 22	05:40	06.16	01h 21 E	+9° 27	Fe Arc ND 1.10	3-3-3

Spectr. Temp. 29°F (-04°C) Dome Temp./Hum. -07°C .65% Transparency Conditions Good

Focus ..... O.R. .....

Spectr. Temp. 14°F ..... Dome Temp./Hum. -13°C .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/110	3-4	6.62	GoII	G/SR	G16R/1.7	B/.5	098-02E	A	RS Cyg/Eri		1 str
							098-02E				
400/185		7.9-8.8	F6-G1	G12 mm	G12/1.7	B/.5	IIaO E	B	Cyg/Evans		fine
							IIaO-E				
200/65		3.1	GoII	"	"	"	"	A	Cyg/Evans		1 str
200/120	4"	7.2	GoII	"	"	"	"	B	VB-Blu		fine
							IIaO-E				
400/110		6.27	Ao	"	"	20/.5	IIaO E	A	SB-Blu		fine
400/135		4.95	B7	"	"	13/.5	IIIaJE	B	SB-Blu/Ly		fine
							IIIaJ-E				
400/109		5.81	F2a	"	"	13/.5	IIaO-E	A	Cyg-Fe		fine
200/100		4.79	B2IVe	"	"	13/.5	IIIaJ-E	B	Be-Blu	DAWN	fine
					098	4m	57°	29	206		
					IIaO	5'	60	18	182		
					IIIaJ	5½	61	15	250		

293

Date Nov. 2-3 Thurs/Fri Observers Lne.-Ri./KK-Ri.....

Emulsion Batches:
IIaO-E..30.07.7-22028..
098-025.30.09.7..02038.
IIa2-E..30077..02038.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42358	HD 27192	04h 12.6	+50 41	18:45	19:03	1:15W	+50 57	Fearc no.0	8-8-8
42359	HD 22468	3h 31.6	+0° 16	19:14	21:00	3:49W	+0 29	Fear... no...	4-4-4
4235971	spot cal for plate	42358+60			15min @	15Volts	D4 3900 D3 4300	D2 4810	
4235972	spot cal for plate 42359				15min @	15VD3 4810	9VD1 Hd	7VD2 5+5D	
42360	HD 27192	04h 12.6	+50 41	21:19	22:03	4:09W	+5057	Fe arc no.1	8-8-8
42361	HD 60509 Sarm	07h 39.2	+28°16	22:10	22:13	0:59W	+28°06	Fearc no.1	8-16
42362	HD 62044	07 37.0	+29 07'	22:20	23:25	2:13W	+28°26	Fearc no.1	2m 20
4236271	strip cal for plate	42358+60		90sec					
4236272	strip cal for plate	42361-63		90sec					
4236273	spot cal for plate	42361-63		15min @	15Volts	D4 3900	D4 4300		
42363	HD 84441 Eleo	9 40.2	+24 14	23:32	23:45	+0:24	+24 01	fearc no.1	8-8-8
42364	HD 47105	06 31.9	+16 29'	23:51	01 00	1ors	+16°32'	Fearc no.1	8-33
42364T	Strip cal for plate	42364	120s on IIaJ						

Spectr. Temp. 23°F (-07°C) Dome Temp./Hum. -06°C Transparency Conditions . . Hazy . . . . . .

Focus . . . . . OR . . . . . .

Spectr. Temp. . . . . Dome Temp./Hum. . . . . .

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/103	1-2	5.5	B2IV	N.B. 12	612/.7	13/.5	IIa-0e	A	SB2-Lnc		v sl str
400/72	2-3	6.68	G0V	G16	616/.7	13/.5	098-02E	B	RSCVn Eji	tele reversed Lazy Lou Lue - too hazy to continue	v sl wk
							IIa0-E				
							098-02E				
400/100	2-3	5.5	G2III	N 612	612/.7	13/.5	IIa-0e	A	SB2-Lnc		v sl str
400/15	2-3	2.15	K0	N 612	612/.7	13/.5	IIa 0E*	B	Std Vel		v sl str
400/153		4.26	K1III	G5	616/-.25	13/.5	IIa-0E*	A	H+K Ly		v sl str
							IIa0-E				
							IIa0-F*				
							IIa0-E*				
400/68		3.1	G0V	N 6-12	6-12/.7	13/.5	IIa0E*	B	Cen / Evans		sl str
400/85		19	B0IV	N 612	612/.7	9/.5	IIa-Je	A	Asm-Sp / KK	cloud at end	sl wk
				IIaJ	5½"	DIG	69°				
				IIa0	5½	"	"	20	185		
				098	4"	DIG	69°	18	144		

295

Date ...MAR 2/4... Fe/ARC Observers ..L.y:R:.....

Emulsion Batches:
IIa-E..30077-02038...
IIaJ:E..01106-23026...
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42365	HD 72208	08 26 5	+10 09	00:00	01: 45	03h 43w	+10 02	Fe ARC ND 11	8-8
42366	HD 131511	14h 48 52	+19° 33'	01: 51	03: 16	01h 07 E	+19° 25	"	8-8-8
4236671	spot cal for plates 42365-66	68		15 min @ 15 Volts		D4 3900	D3 4300	D2 4910	
4236672	step cal for plates 42365-66	68			90sec				
42367	HD 139892	15h 35m 37	+36° 58'	03: 19	04: 03	01h 04 E	+36°51	Fe ARC NO FILTER	3-3
4236771	spot cal for plates 42367			15 min @ 15 Volts		D4 4100	D4 4300	D4 4910	
4236772	step cal for plates 42367			180sec					
42368	HD 163306 (89 Her)	17h 51.4	+26° 04'	04.08	04: 55	03h 29 E	+26° 14'	Fe ARC ND 110	8-8-8
42369	HD 175426	18° 50 2	+36 51	05: 06	06: 02	02 20E	+37° 07	Fe ARC N.D. 110	20

Spectr. Temp. 23°F -7°C Dome Temp./Hum. -10°C Transparency Conditions ... fair - good
Some cloud, cirrus, ice
Focus OR
Spectr. Temp. ... Dome Temp./Hum. -11°C 99%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
600/180	3-4	6.5x	A0	NG12	G12/.7	13/.5	IIaDe	A	Ap-Ly		fine
800/200		6.84	dK1	"	"	13/.5	IIaD-E	B	H+K-Ly		fine
							IIaO-E				
							IIIa-F				
400/243	3-5	4.95	B7II	N.G+12	G12/.7	13/.5	IIIaJ-E	A	SB.-Bkn/Ly		fine
							IIIaJ-P				
							IIIaJ-E				
100/110		5.81	F2Ia	N.G-12	G12/.7	13/.5	IIaO-E	B	Cepk-Fe		vsl str
100/163	3-4	5.3	B3	G8	G12/-.25	13/.5	IIaO-E	A	SB-Ly	DAWN	
								IIIaJ w/ unpol Bx "O			
			IIaO	6m 67°	20 183			IIaO w/ unpol Bx "O			
			IIIaJ	6m 67°	14 249						

Emulsion Batches:
Tech-E 30077-02038
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.....

Date Sat-Sun. 2 Mar. 4-5 1978 Observers BA-RI

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42370	HD 32092	4 55·6	+26 32	18 51	21:34	03ʰ06 W	+26°40'	Fe ARC N.D. 1.10	8-8-8
4237071	spot cal for plate	42370-73,			15 min @ 15 Volts		D4 3900 D3 4300	D2 4810	
4237072	step cal for plate	42370-73,			90 sec				
42371	HD 71663	8 23·5	−2 11	21:37	23:15	01ʰ20 W	−02023	Fe ARC N.D. 1.10	8-8-8
42372	HD 74874 AB	8 41.5	+06° 47	23 20	23:30	01ʰ17 W	+06°31	"	8-8-8
42373	HD 87822	10 02:5	+32 06	23 34	00' 20	00ʰ46W	+31°44'	"	8-8-8
				00:41	01:20	01ʰ45W			

Spectr. Temp. .18°F.(-08°C) Dome Temp./Hum.-10°F..68% Transparency Conditions ..some clouds.....

Focus .....90B.....

Spectr. Temp. .18°F..... Dome Temp./Hum.-15°C.....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300/200	4-5	7.29	F5	U.G-12	G12/,7	13/.5	IIaO-E	B	Wade/Levo	clouds to 1...	
							IIaO-E				
							IIaO-E				
300/220		6.57	F0	U.G.-12	G12/.7	13/.5	IIaO-E	A	C.V.B. Variable		
400/110		3.98	F8	"	"	"	"	B	"		v s/str
300/208		6.60	F5	"	"	"	"	A		snow & clouds clouds up for 20mm	v s/str
										cloudy at 03:00	
			IIaO	6m 67°	19 182						
							IIaO		expand Bay #2		

978

299

Date Sun/Mon Mar 5/6 Observers Ly-R. / Fgl-R.

Emulsion Batches:
IIaO-F 30071-02038
098-02 3.0097.02038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42374	HD72208	08 26.5	+10 09	22:42	00:08	02 14 W	+09 54	Fe Arc UV II	4-4
42374T1	spot cal for plate 42374				15min @ 15 Volts	D4 3900	D3 4300 D2 4810		
42374T2	dup cal for plate 42374				90 sec				
42375	HD63626	07" 54.5	+57° 33	00:19	01:54	04" 30 W	+57° 22'	Fe Arc UV II	4-4-4
42375T1	spot cal for plate 42375-80				15 min	D3 15 Volts 4810	D17U HK	P27U 5450	
42376	HD106677	12" 11.0	+73°07	01:57	03:29	01:51 W	+72° 40'	Fe Arc UV II	4-4-4
42377	HD113216	13 32.20	+37°42'	03:32	04:01	01:04 W	+37° 17'	"	4-4-4
42378	"	"	"	04:02	04:25	01:29 W	"	"	4-4-4
42379	HD146361	16"10.9	+34° 07	04:28	05:11	00" 25 E	+33° 55	"	4-4-4
42380	HD 146362 (146361?)	"	"	05:12	06:05	00 32 W	+33° 55		4-8

Spectr. Temp. 20°F Dome Temp./Hum. -10°C/84% Transparency Conditions .... good 300

Focus 908

Spectr. Temp. 15°F Dome Temp./Hum. -8°C/96% II

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300/172	3-4	6.58	Aop	NG12	G1V/.7	17/5	IIaOe	A	Ap-Lg		
							IIaO-E				
							IIaO-E				
200/220	3-4	7.1	GO	G16R	G16/.7	13/5	098-02	B	RSCVn/Fg		fine
							098-02				
200/221		7.55	kO	G16R	G16/.7	13/5	"	A	RSCVn/Fg		fine
200/111		5.3	F2IV	"	-	-	-	B	-		fine
200/224		-	-	-	-	-	-	A	"		fine
200/220		5.76	dK6	"	-	-	-	B	"		fine
200/113		6.60	dG1	"	-	-	-	A	"	DAWN	sl wk
									IIaO w exposed Box # 3		
									098 - exposed Box # 1		
				098	4m D17	58°	18 186				
				IIaO	6m	67°	18 182				

301

Emulsion Batches:
Tri-X E 20077-05037
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Date MAR 31 - APR 1 1967 Observers B. & R.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42381	HD 34547	05 13.2	+13 29	18 50	20: 45	02h 06 W	+13°41'	ND 1.1	8-8-8
42381T1	spectral to plate 42381-86			15 min @ 15 Volts		D4 3900	D3 4300	D2 4810	
42381T2	stupecal to plate 42381-86				90 sec				
42382	HD 47256	06 32.6	+27° 53	20: 47	22: 28	02h 29 W	+27° 58'	7c ARC ND 1.1	8-8-8
42383	HD 51418	06 52.2	+42° 26	22:31	23 46	03 27 W	+42° 30'	"	8-8-8
42384	HD 96003	10 59.3	+13 12	23: 51	01: 40	01h 15 W	+12 56	"	8-8-8
42385	HD 135679	15 11.3	+26 01	01:43	04: 13	00h 22 E	+25° 50'	"	8-8-8
42386	HD 137182	15 19.5	+10 54	04:15	06:11	01h 27 W	+16° 47	"	8-8-8

Spectr. Temp. 24°F ..... Dome Temp./Hum. -06°C ... 62% Transparency Conditions Excellent ..... 302 ...

Focus ..... OR .....

Spectr. Temp. ....19°F..... Dome Temp./Hum. -10°C ... 92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/200	2-4	7.5	B9	G12	NG12/1.7	13/.5	IIaO-E	A	A_p MR		
							IIaO-E				
							IIaO-E				
800/200	3-4	7.26	A3	G-12	NG12/1.7	13/.5	IIaO-E	B	A_m-MR		
800/200		6.61	A0	"	"	9/.5	"	A	A_p-MR		v sl str
800/200	3-5	6.75	A_p	"	"	9/.5	"	B	A_p-MR		
800/200		6.67	B9	"	"	9/.5	"	A	A_p MR		v sl str
800/190	4-5	7.19	A0	"	"	13/.5	"	B	A_m MR	DAWN	fine
						IIaO	5'/2	64°	20	180	

303

Emulsion Batches:
IIaO-E 20077-05037
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Date MAR. 7-8. 9. TUES. WED, Observers ... But.-Ri.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42387	HD 38817	05" 43.4	+43° 59	18·50	22:06	03:00 W	+44°05'	Fe ARC ND 1.0	8-8-8
42387T1	spectral fog plates 42387-90,				15 min @ 15 Volts	D4 3900	D3 4300	D2 4810	
42387T2	strip cal fog plates 42387-90.				90 sec				
42388	HD 47256	06 32.7	+27 53	22:10	01 13	05 19 W	+27 57'	FE ARC ND 1.1	8-8-9
42389	HD 134305	15 04.0	+12 52	01:20	04:06	00" 17 E	+12°41'	"	8-8-8
42390	HD 156547	17 13.1	+26° 00	04.10	05:48	00" 43 E	+25°59	"	8-8-8
42390T1	focus test and white							NO FIGURE	5/5

Spectr. Temp. .24°F..... Dome Temp./Hum. -7°C/.59% Transparency Conditions THIN CIRRUS 304

Focus .....OR.....

Spectr. Temp. .14°F..... Dome Temp./Hum. -12°C.....70%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800/200	4-5	7.51	A1	G-12	NG12/1.7	13/1.5	IIaO-E	A	Am - MR		
							IIaO-E				
							IIaO-E				
00/170	8"	7.26	A3	G-12	NG12/1.7	13/1.5	IIaO E	B	Am MR	Telescope limit	
00/200	4-5	7.24	A7	"	"	"	"	A	Ap MR		
00/200		7.04	A1	"	"	"	"	B	Am MR		
	focus	OR	temp	14°F		9	IIaO-E	B			contra to blue
					5'1/2"	69°	19 175				

305

Date 1978 MAR 8/9 Observers KH-J.m.-Fg.-Ly.-Es.....

Emulsion Batches:
IIIaFe 23117 — 23128
098-02E 30097 — 02038
IIaO-e 20077 — 08038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42391	HD 47105	06 31.9	+16 29	18 35	19 04	00 44E	+16 32	Fe Arc UV filt.	8-8-10
42391T	Spot Calib for 42393-97.			15 min @ 15V	D4 3900	D3 4300	D2 4810		
42392	HD 22468	03 31.6	+0 16	19 09	20 36	03 36W	+0 36.0	Fe Arc none	4-4-4
42392T	Spot Calib for 42392, 93-03.			15 min @	15V D3 4810	7V D1 Hα	7V D2 5450		
42393	HD 62044 (65 Sem)	07 37.0	+29 07	20 43	21 36	00 42W	+29 03	Fe Arc ND=1.0	20-20-20
42393T	Spot Calib for 42391.			15 min @	7V	D4 5100	D2 Hα	D3 5450	
42394	HD 27192	04 12.6	+30 41	21 44	22 00	04 30 W	+30 59	Fe Arc ND=1.0	13-12
42395	HD 72208	08 26.5	+10 09	22 07	22 56	01 14W	+09 57	Fe Arc ND=1.1	8-8-8
42396	HD 72355	08 27.2	+10 24	22 59	23 42	02 00W	+10 14	Fe Arc ND=1.1	8-8-8
42397	HD 102870	11 45.5	+02 20	23 47	23 55	01 05E	+02 00	Fe Arc ND=1.1	8-8-8
42398	HD 65626	7 54.5	+57 33	00 09	01 00	03 56W	+57 26	Fe Arc NO FILTER	4-4-4
42399	HD 107760	12 17.8	+73° 48	01 17	03 46	02 14 W	+73° 27.4	Fe Arc NO FILTER	4-4-4
42399T	Strip Calib for 42393-97							90sec	
42400	HD 118216	13 30.3	+37° 42	03 51	04 09	01 24 W	+37° 21.5	Fe Arc NO FILTER	4-4-4
42401	HD 118216	13 30.3	+37° 42	04 10	04 28	01 44 W	+37° 21.5	Fe Arc NO FILTER	4-4-4

Spectr. Temp. +26°F ..... Dome Temp./Hum. +24°F / 53% Transparency Conditions .. Fine ..... sl. hz. (2)

Focus ..... 0 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... / .....

306

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30/100	2"	1.9	A0 III	G16R	G6/.78	9/5	IIIaF-E	A	Asm Sp/KK		comp fine str
							IIaO-E			may be late-type 96	
40/5B	2-3"	6.68	G0 V	G16R	G6/.78	13/5	098-02E	B	RS CVn/Fe		
							098-02E				
60/160	1"-2"	~5.4	K1 III	G8 Blue	G16R/-.25B	9/5	IIaO-E	A	Hγ Hδ Bm-Ly		vsl str
	Repeat						IIIaF-E				fine
50/50	1-2	5.5	E2 IV	NG12	G12/.7B	13/5	IIaO-E	B	SB - Lne		
90/98	1-2	6.53	A0p	"	"	13/5	IIaO-E	A	SB - Ly	fainter star in field	
90/100	1-2	6.23	A0 V	"	"	"	"	B	SB - Ly	brighter star in field	vsl str
90/57	2	4.16	F8 V	"	"	"	"	A	STD UBL		sl str
90/101		7.1	G0	G16R	G16R/.7B	"	098-02-E	A	RS CVn/Fe		
90/200	2"	9.0	G5	"	"	18/5	"	B	RS CVn/Fe		vsl wk
							IIaF-E				
120/50	1-2"	5.3	F2 III	G16R	G16R/.7B	13/5	098-02-E	A	RS CVn/Fe		fine
90/50		5.3	F2 III	G16R	G16R/.7B	13/5	098-02-E	B	RS CVn/Fe		fine

307
#2

WED-THURS

Date 1979 MAR 8/9 Observers Fg-Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Ex
42402	HD 146361	16 10.9	+34° 07	04 34	05 13	00 12E	+33° 59.4	Fe Arc NO FILTER	4-4-4
42403	HD 146361	16 10.9	+34° 07	05 14	06 01	00 36W	+33° 59.4	Fe Arc NO FILTER	4-4-4
42403T	Strip Calib for	42392	98-103.					90sec	

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 307

Focus ..... 0 .....

Spectr. Temp. ..... 22°F ..... Dome Temp./Hum. +19°F / 90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200/50	2"	V = 5.76	dF6	G16R	G16/1.78	13/1.5	098-02-e	A	RS CVn/Fgi		fine
200/56		V= 5.76	dF6	G16R	G16/1.78	13/1.5	098-02-e	B	RS CVn/Fgi		v sl str
90sec							"				
				098 4m 68°							
				II 20 5½ 68°			18 156				
				N 2F 5½ 68°			13 244				

309 — Trent U group looked at Jupiter

Date 1978 MAR 9/10 Observers F.Fu-Tu/KK-Tu

Emulsion Batches:
098-02E 20297-09038
IIaO-E 20077-08038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
42404	HD 22468	03 31.6	+0 16	18:55	20:24	03:36W	+00 36.5	Fe Arc none	4-4-
42404T	Spot Calib for 42404				15min @	15U D3 4810	7U D1 Hα	7U D2 5450	
42405	HD103095	11 47.2	+38 26	01:44	03 07	02 08W	+37 59	Fe Arc ND HD	8-8-
42405T	Spot Calib For 42405-9			15min @	15V D4 3900	D3 4300	D2 4810		
42406	HD 131511	14 48.9	+19 33	03 12	04 14	0 15W	+19 23	Fe Arc ND1.10	8-8-
42407	HD 122742	13 58.6	+11 16	04 17	05 38	2 28W	+11 02	Fe Arc ND1.10	8-8-
42408	HD 137909	15 23.7	+29 27	05 41	05 48	1 37W		"	8-8-8
42409	HD 140436	15 38.5	+26 37	05 51	06 00	1 11W		"	8-8-8
42409T	Strip Calib for 42405-9							905Q	

Spectr. Temp. +25°F ..... Dome Temp./Hum. -20C/55% Transparency Conditions .Cloud from N. by 21h 30

Focus .changed to 90R .....

Spectr. Temp. +28°F ..... Dome Temp./Hum. +28°F/70% .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/65	2-3"	668	G0V	G16R	G16/-7B	13/5	098-02E	A	RSCVn-Fgi		fine
							11				
120/120	2-3"	645	G8V	G12R	G12/-675B	13/5	IIaO-E	A	AsmSp - KK		
							IIaO-E			no 3-d exposure	
100/120	3	684	dK1	G12	G12/-675B	13/5	IIaO-E	B	AsmSp - KIC		
100/110	4	V= 6.21	G8V	G12	G12/-673	13/5	IIaO	A	AsmSp - KIC		
10/18	1-2	3.93	F0p	G12	"	13/9	"	B	"		
10/18	1-2	3.81	A0V	G12	"	"	"	A	"		
							"				
				IIaO	5½m	69°	21 163				
				098	4m	68°	18 163				

311

Fri/Sat

Date 1978 March 10/11 Observers Gre-T.n/T.n

Emulsion Batches:
IIaO-E 20077-09038
098-E 30097-09038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42410	HD 27192	04 12.6	50°41	18:51	19:13	1:50W	+50 59	Fe arc IL 110	8-8
42411	HD 34364	05 11.8	+33 19	19:17	20:02	1:40W	+33 51	"	8-8-8
42411T	Spot Calib for 42410-15.			15min @ 15V		D4 3900	D3 4300	D2 4210	
42412	HD 27192	04 12.6	50°41	20:04	20:35	3:12W	+50 59	Fe arc IL 110	8-8-
42413	HD 45412	06 22	+30 33.3	20:38	23:05	3 34W	+30 37	"	9-9-
42413T	Step Calib for 42410-15.								
42414	HD 84441	09 40	+24°14	23:09	23:43	0 55W	+24 00	Fe Arc IL 110	9-9-
42415	HD 112028	12 48.3	+83 58	23:54	01:24	0 30E	+83 38	"	9-9-9
42416	HD 166677	12 11.0	+73 07	01:32	02:33	1 15W	+72 47	Fe Arc None	4-4-4
42416T	Spot Calib for 42416-15			15min @	15V D3 4-10	7V D1 Hd	7V D2 5450		
42417	HD 118216	13 30.3	+37 42	02 44	03 27	0 50W	+37 23	Fe Arc None	4-4-
42418	"	"	"	03 28	03 49	1 11W	"	"	4-4-4

Spectr. Temp. +32°F ..... Dome Temp./Hum. +32°F / 50% Transparency Conditions . Fine ... but going fast ....

Focus ... 90-R .....

Spectr. Temp. +30°F ..... Dome Temp./Hum. +25°F / 90% .

312

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/100	2"	5.5	K2 III	N612	612/78	13/15	IIaO	A	SB2-Lne		Fine
99/99	1-2"	5.5-6.5	Ap	"	"	"	"	B	Fe1 Cu - Blk		Fine
							"				
101/101		5.5	B2 III	"	"	"	"	A	SB2-Lne		Fine
123/123	2-3	5.3-6.5	F1-60	"	"	9/15	"	B	Cepk/Evans	Cloud	
							"				
63/63	3"	3.1	G0 II	"	"	9/15	"	A	Cepk/Evans	Thick cloud	Fine
100/100	1-2	5.2	B8	"	"	9/15	"	B	Shell-Blk	Focus [illegible] to 1255 Thin cloud	Fine
55/55	2-3	V= 5.42	K0	G16/78	G16/78	13/15	098-E	A	RSCVn-Fe1	Some [illegible]	V slwk
							C02-E		[illegible]		
125/125	2"	V= 4.95	F2 IV	G16/78	G16/78	13/15	098-E	B	RSCVn-Fe1	Some cloudy times	fair
110/110		"	"	"	"	"	"	A	"		fine
			098	4m 65°	18 140						
			IIaO	5½m 68°	19 170						

313 Note * All penciled labels for this night are 1 digit too low inked labels are correct.

Date 1978 March 12/13... Observers Bl...Ta.../...Ra...To....

Emulsion Batches:
098-02 E 30097 - 09038
IIIaJ E 01106 - 04038
IIaD E 20077 - 09038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42419	HD 22468	03 31.6	+0 16	18 59	20 16	03 40 W	+00 38	Fe Arc None	4-4-4
42419T	Spot Cals for	42419, 25.			15min @ 15V D3 4810	7V D1 Hα	7V D2 5450		
42420	HD 37468	05 33.7	-2 39	20 20	20 47	02 13 W	-2 32	Fe Arc	5-3
42421	HD 47105	06 39	+16 29	20 51	21 00	01 27 W	+16 30	Fe Arc	5-5
42421T	Spot Cals for	42420-21.			15V *	D4 4100	D4 4300 D4 47	Fe	
42422	HD 34364	05 11.8	+33 39	21 04	22 11	3 58 W	+33 52	Fe Arc ND 1.10	7-7
42422T	Spot Cals for	42422-24. 26-28			15min @ 15V	D4 3900	D3 4300 D2		
42423	HD 88021/2	10 03.8	+20 49	22 15	01 04	2 01 W	+20 33	Fe Arc ND 1.10	7-7
42424	HD 89441 = ε Leo	9h 40.2	+24° 14	01 13	01 31	2 52 W	+23 58	Fe Arc ND 1.10	8-8
42425	UP 1R 21C	13h 30.3	+37° 42	01h 39	02 06	0 24 E	+37 23	Fe Arc ND 1.1	4-4-4
42426	HD 129997	14h 11.1	+19° 42	02h 11	02 16	0 54 E	+19 22	Fe Arc ND 1.1	14-4
42427	HD 163506 = 89 Her	17h 51.4	+26 4	02 34	03 11	3 38 E	+26 09	"	7-7
42428	HD 186688 = 51 Cyg	19h 40.7	+31° 01	03 18	05 50	2 48 E	+29 18	"	6-6-6
42428T	Strip Cals for	42419, 25.			90sec				

Spectr. Temp. +33°F..... Dome Temp./Hum. 32°F. H=77% Transparency Conditions . Very good - low haze

Focus ....90-R.....

Spectr. Temp. .....°F..... Dome Temp./Hum. 21°F / H=86%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400/57	2"	6.68	G0V	G16R	G16/.7B	13/.5	098-02E	A	RSCVn-Fi		fine
							"				
200/100	2"	3.51	09.5V	NG12	G12/.7B	13/.5	IIIa-JE	B	SB-Bln		fine
40/30		1.9	A0IV	NG12	G12/.7B	9/.5	IIIa-JE	A	ASM-KK		fine
	x	Exp	Sp	400 prob 10 min.			IIIaJ-E	Seeing too poor to			
400/100	3"	6.49	A2	NG12	G12/.7B	13/.5	IIa-0E	B	Ecl. Bin-Bln		
							"				
400/128	3"	7.20	G5V-F A2	VB-Bln	G12/.7B	13/.5	IIa-0E	A	VB-Bln		
40/5	3'	3.1	G5	G8	G8/-.25	9/.5	IIa-0E	B	Cep/Const		
50/6		5.3	F2III	G16	G16/.7B	13/.5	098-E	A	KOVn-Fi	comp very weak!	star fine
0/26	2-3	1.01	K	NG12	G12/.7	9/.9	IIaJ-E	B	S+2 Vel		
00/66	2-3	5.02	F2III	"	"	13/.5	IIa-E	A	Cyn-Fe		
00/137	"	6.7-7.7	G1	"	"	13/.5	IIa-E	B	Cyn-Rm		
		mag too low for 26.					098aE			very reddened	
	098	4m	68°	18 183					dusty	Comet Kowal-Vavrova	
	IIIJ U-0	5½	62°	15 250 21 183						Comet 1978 b	

315

wed Thurs

Date 1978 Mar. 15/16..... Observers Bln-Tn / Fgu-Tn

Emulsion Batches:
098-02 E 30097-09038
IIIaJ-E 01106-04038
IIaO-E 20077-12038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42429	HD 22468	03 31.6	+0 16	19 02	20 15	3 55 W	+0 37	Fe Arc none	4-4-4
42429T	Spot Cals for	42429, 33-36			15min @	15V D3 4810	7V D1 H2	7V D2 5250	
42430	HD 37468	05 33.7	-2 39	20 19	21 04	2 42 W	-2 32	Fe Arc None	3-3-3
42430T	Spot Cals for	42430	15min @ 15V		D4 4100	D4 4300	D4 4810		
42431	HD 34364	05 11.8	+33 39	21 08	23 09	05 08 W	+33 52	Fe Arc ND 1.10	8-8-8
42431T	Spot Cals for	42431-32.		15min @	15V	D4 3900	D3 4300	D2 4810	
42432	HD 112028	12 48 16	+83 58	23 18	00 52	00 42 E	+83 37	Fe Arc ND 1.10	8-8-8
42433	HD 106677	12 11.0	+73 07	00 59	03 23	02 25 W	+72 46	Fe Arc No Filter	4-4-4
42433T	Strip Cals for	42429, 33-36,		9 sec					
42434	HD 118216	13 30.3	+37 42	03 26	04.02	01 45 W	+37 23	Fe Arc No Filter	4-4-4
42435	HD 118216	13 30.3	+37 42	04 04	04 42	02 24 W	+37 23	Fe Arc No Filter	4-4-4
42436	HD 146361	16 10.9	+34 07	04 45	05:45	00 48 W	+34 00	Fe Arc No Filter	4-4-4
42436F	Focus Test							Fe Arc No Filter	15-15

09038
24038
12038

Spectr. Temp. +33°F ..... Dome Temp./Hum. +27°F / A. 77% Transparency Conditions .OK: sl. hazy ..... 316.

Focus ..... 9.0-R ..... Cloud by 21.5

Spectr. Temp. +22.°F ..... Dome Temp./Hum +17°F / H=91%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4:/38	3-4"	6.68	G0V	G16R	G16/.7B	13/1.5	098-02 E	A	RSCVn/Fgi		Fine
							098-E E				
00/100	4"	3.51	59.5V	G12	G12/.7B	13/1.5	IIIa-J E	B	SB-Bln		fine
20/95	3-4	5.8-6.5	Ap	G12	G12/.7B	13/1.5	IIa-O E	A	E/Bln Bh	cloud	
00/143	4"	5.2	B8p	G12	G12/.7B	13/1.5	IIa-O E	B	Shell-Bln		Fine
00/65	4"	7.55	K0	G16R	G16/.7B	13/1.5	098-02e	A	RS CVn/Fgi		fine
							098-E E				
20/100	3"	5.3	F2IV	G16R	G16/.7B	13/1.5	098-02-e	B	RS CVn/Fgi		fine
0:/101	3"	5 3	F2II	G16R	G16/.7B	13/1.5	098-02-e	A	RS CVn/Fgi		Fine
10/10	3"	V= 5.76	dF6	G16R	G16/.7B	13/1.5	098-02-e	B	RS CVn/Fgi		Fine
In twilight				G16R	G16/.7B	13	1,	A	set 90-R temp 22°=	big sl. ft	blue
					098 4" 69°		25 235				
					IIOO 5½ 65°		20 179				
					IIIaJ 5½ 65°		17 250				

317

Date THURS/FRI. 17-18 MAR 16/17 Observers Fgi.-Tn/KK-Tn

Emulsion Batches:
098-02E 30097-16038
III-9J-E 01106-04038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42437	HD 22468	3 31.6	+0° 16	19 22	20 53	04 33W	+	Fe Arc No Filter	4-4-4
42437T	Spot Calib for 42437, 39-41.			15 sec @	15V D3 4910	7V D1 H-K	7V D2 5450		
42438	HD 47105	6 31.9	+16 29	21 49	22 00	02 43W	+16 34	Fe Arc No Filter	4-4-4
42439	HD 118216	13 30.3	+37 42	22 10	22 41	03 32E	+37 24	Fe Arc No Filter	4-4-4
42440	HD 118216	13 30.3	+37 42	22 42	23 11	03 03E	+37 24	Fe Arc No Filter	4-4-4
42441	HD 118216	13 30.3	+37 42	23 12	23 42	02 32E	+37 24	Fe Arc No Filter	4-4-4
42442	HD 47105	6 31.9	+16 29	23 54	00 06	04 50W		Fe Arc No Filter	4-4-4
42443	HD 131511	14 48.9	+19 33	0 13	01 15	02 16E	+19 22	Fe Arc No Filter	8-8-8
42443T	Spot Calibration for 42443			15" @ 15V	D4 3900 D3 4300	D2 4910			
42444	HD 124897	14 11.1	+19 42	01 22	01 49	01 04E		Fe Arc No Filter	30-

Spectr. Temp. +30°F ..... Dome Temp./Hum. +24°F / H=80% Transparency Conditions .. cloudy with thin clouds 3/6

Focus .... 90-R .....

Spectr. Temp. ..... Dome Temp./Hum +20° / H=100+8

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/40	2-4'	6.68	G0 I	G16R	G16/.7B	13/.5	098-02c	A	Fgi/RSCVn		
							098-02E				
40/31	2'	1.9	A0 IV	G12B	G12/.7B	9/.5	IIIaJ-E	B	Asm Sp Kk		fine
400/100	1-2"	5.3	F2 II	G16R	G16/.7B	13/.5	098-02-e	A	Fgi/RSCVn		
400/99	1-2"	5.3	F2 II	G16R	G16/.7B	13/.5	098-02-e	B	RSCVn/Fgi		
400/100	1-2"	5.3	F2 IV	G16R	G16/.7B	13/.5	098-02-e	A	RSCVn/Fgi		
40/25	2	1.9	A0 IV	G12B	G12/.7B	9/.5	IIIaJ-e	B	Asm Sp Kk		v sl wk
450/56	1-2'	68	dK1	G12B	G12/.7B	13/.5	IIaO e	A	Asm Sp KK	Some cloud thru	sl wk
							IIaO-e				
20/180	2'	124	K0	G24I	G2/.9B	13/.5	IV-Nh	B	Test	V Filter before slit passing thin cloud	exp fine focus fine comp wk
							IIaO 5½		68° 20 170		
							IIIaJ 5½		68°		
							IV-N 5½		68° 16		
							098 4½		68° .18 1.54		

319

FRI/SAT

Date 1978 MAR 17/18 Observers L.J.-T.

Emulsion Batches:
IIaO-E 20097-16038
IIaJ-E 01106-04038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42445	HD72208	8h 26.5	+10 09	22:33	00:45	3 38 W	+10 01	Fe Arc ND 1.0	8-8-8
42445T	Spot Calib 42445-46, 48-50.			15 min @ 15V		D4 3900	D3 4200 D2 4810		
42446	HD131511	14 48.9	+19 33	00 52	02:59	0 28 E	+19 22	Fe Arc ND=1.1	8-4-8
42446T	Strip Calib for 42445-46, 48-50.								90 sec.
42447	HD137892	15 35.6	+36 58'	03 03	04 00	0 13 E	+36 52	Fe Arc No Filter	3-3-3
42447T	Spot Calib for 42447			15 min @ 15V		D4 3900	D4 4300	D4 4810	
42448	HD163586	17 51.4	+26 4'	04 04	04 55	1 34 E	+26 13	Fe Arc ND=1.1	7-7-7
42449	HD175426	18 50.2	+36 51	04 58	05 40	1 47 E	+37 04	Fe Arc ND=1.1	8-8-8
42450	HD124897	14 11.1	+19 42	05 44	0545	2 56 W	+19 27	Fe Arc ND=1.1	12-12

Spectr. Temp. 30°F ..... Dome Temp./Hum. 120°F / 95% Transparency Conditions ... Hazy ... (Haze) ... 320

Focus ... Set R .....

Spectr. Temp. ..... Dome Temp./Hum. 116°F / 97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
00/70	3-4	6.53	A0	NG12B	G12/.78	13/1.5	IIaOe	A	SpBm-Ly	Focus OK	fine
							IIaO-E				
00/105	3-4	6.84	dK1	NG12B	G12/.78	13/1.5	IIaOe	B	AbsEp-KK	focus	fine
							IIaO-E				
00/110	3-4	4.95	B7V	NG12B	G12/.78	13/1.5	IIIaJe	A	SpBin Blu/Ly	ζ^2 CorBor2 Flex	fine
							IIIaJ-E				
00/50	3-4	5.8	F2Ia	NG12B	G12/.78	13/1.5	IIaO-E	B	Eph - Fe	Sy Here Foc	Fine
00/51	3-4	5.5	B3	"	"	13/1.5	IIaO-E	A	SpBin - Ly	δ^1 Lyr. Foc	v slight
10/14	3-4	1.24	K	"	"	"	"	B	STD RV	focus	v slight
					IIaO 6m	Dig 67°	19 180				
					IIIaJ		15 254				

321

Date 19/20 MAR '78 SUN/MON Observers Bln-Tn / Rm-Tn

Emulsion Batches:
IIIa-J E 01106 – 04038
IIa-O-E 20077 – 16038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42451	HD 37468	05 33.7	−2° 39′	19 00	19 18	01 12W	−2° 27′	Fe Arc N. Filter	3-3-3
42452	HD 47105	06 31.9	+16 29	19 21	19 38	00 22W	+16 3[illegible]	Fe Arc N. Filter	3-3-[illegible]
42453T	Spot Calc for 42451-52, 56				15m... @ 15V	D4 3900	D4 4300	D4 4810	
42453	HD 88021/2	10 038	+20 49	19 32	22 27	00 09E	+20 36′	Fe Arc NO NO	8-5-5
42453T	Spot Calc for 42453-55, 57-59.			15min @ 15V	D4 3900	D3 4310	D3 4810		
42454	HD 97923	11 10 44	+13 23	22 30	00 32	00 49W	+13 08	Fe Arc NO NO	8-8-8
42455	HD 4441 = ELCO	9h 40.2	+2[illegible] 14	00 38	00 [illegible]6	02 44W	+24 03	Fe Arc N[illegible]	12-12-1[illegible]
42456	HD 139892	15h 35.6	+36° 58	01 06	01 59	02 08E	+36 50	Fe Arc N[illegible]	3-3-3
42457	HD 124897	14h 11.1	+19° 42	02 04	02 07	00 35E	+19 27	Fe Arc N[illegible]	14 1[illegible]
42458	HD 162[illegible]	17h 51.4	+26° 04	02 13	03 06	03 16E	+26° 11	Fe Arc N[illegible]	8-5-8
42459	HD 186688 = [illegible]	19h 40.8	+29° 01	03 10	05 41	02 31E	+29 23	Fe Arc NO NO	7-7-7
42459T	Step Calc for	42453-55, 57-59					95sec		

Spectr. Temp. 36°F ..... Dome Temp./Hum. 30°F/71% Transparency Conditions Very good 5m: Fog 322

Focus ....92.R.....

Spectr. Temp. 23°F ..... Dome Temp./Hum. 23°F/80.2

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/101	2-3	3.51	09, IV	G12	G12/.78	13/.5	IIIa-JE	A	Sp. Bin-Bin	Focus fine	mid
40/35	2-3	1.9	A0 IV	G12	G12/.78	9/.5	IIIa-JE	B	ASM-KK	Focus fine	sl str.
							IIIa J-E				
200/130	23	7.2	965 +A2	G12	G12/.78	13/.5	IIaO-E	A	VB Bin	v Hazy Focus Bad	Fine
							IIaO-E				
100/100	3-4°	6.49	A6n	G12	G12/.78	13/.5	IIaO-OE	B	Sp. Bin-Bin	sl haze	Fine
24	2-3	3.1	G0 II	G8	G8/-.25	9/.5	IIaO-OE	A	Capk/Evans	Focus fine	Fine
111		4.6	G0 I	G12	G12/.78	13/.5	IIIaJE	B	SB-Bin/Ly	Focus poor	Fine
10/25		1.21	K	G12	"	9/.9	IIaOE	A	Std Vel	Fine Focus good	Fine
50/56	3-4	5.52	F2 Ia	"	"	13/.5	IIaOE	B	Capk/F2	Thin cloud	Fine
100/126	3°	6.5-7.7	F0-G1	"	"	18/.5	IIaOE	A	Capk/Evans	sl Haze Lt Focus sl Fog?	sl wk
							II-OE				
					IIaO 6m D19	67°	20-176				
					IIaJ		15-253				

323 SECONDARY REALUMINIZED MON MAR 20, 1978

Date ..... Observers .....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp. Mtr.
4245 9T2	Flame test		hood	optical plate				Fe Ar N.O. 1-10	12-12	
4245 9T3	"			"				"	"	
4245 9T4	"		tried to move the grating					"	"	
4245 9T5	"		"	"				"	"	
4245 9T6	"		tried to move the plateholder mount					"	"	
4245 9T7	"		"	"				"	"	
4245 9T8	"		exp + unexp plate					"	"	
4245 9T9	"		"					"	"	
4245 9T10	"		5 min	E						
4245 9T11			30 min	E						
4245 9T12			1 hr	E						

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions 324

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Note * Try Focus of +30 Red above chart reading for given temp.

Comparison Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeArc W 2.0							9		A			F
" "							"		B			F
" "							"		A		Flex 45° to disp	Flex bad
" "							"		B		" " "	Flex
" "							"		A			F
" "							"		B			F
" "							"		D			F
" "							"		B			F
									A			F
									B			F
									A			F

325

Tmt2/TP1

Date .Mar.23/24.1978... Observers ..Ly.-R.....

Emulsion Batches:
IIIaJ E 01126-22038
IIaD E 20077-20038
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42460	HD47105	06 31.9	+16 29	19:18	19:14	00 25W	+16 26	NO FILTER FE ARC	4-4-
42461	HD26676	04 08.1	+09 58	19:20	20:35	04 10W	+10 09	FE ARC ND=1.10	8-
42461A1	spectral tri plates 42460-			15 min @ 15 Volts		D4 3900	D4 4300	D4 4810	
42461T2	stupeal tri plates 42460				180 sec				
42461T3	" " " 42461				90 sec				
42461T4	Tilt prism test		3hr E with G-12 -					no filter	10-1.
42461T5	"		3½ E with G-8						10-1.
42461T6	"		hand moved grating G-8						10-1.
42461T7	"		" " "		"				10-1.
42461T8	"		moving optical plate						
42461T9	"		moving plate holder mount						
42462	HD72208	08 26.5	+10 09	23:40	01:10	04 27W	+09 53	Fe Arc ND=1.1	8-8-
42463	HD131511	14 48.9	+19 33	01:15	02:48	00 15E	+19 15	Fe Arc ND=1.1	8-8-
42463T1	spectral tri plates 42461-			15 min @ 15 Volts		D4 3900	D3 4300	D2 4810	
42464	HD175426 (ε Lyr)	18 50.2	+36 51	02:54	05 10	01 54E	+36 58	Fe Arc No Filter	4-4

Spectr. Temp. 48F ..... Dome Temp./Hum. +2°C 65% ..... Transparency Conditions 326
Focus ..... 70R .....
Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/ 21	2-3	1.9	A0IV	1YG12B	G123	9/.7	IIIaJE	A	Sp-KK		fine
100/87	3-6	6.2	B8	"	"	13/.5	IIaOe	B	SpEm-Ly	cloud.	
							IIIaS-E				3rd wk
							IIIaJ-E				
							IIaO-E				
						9	IIIaJ-	A		Flex parallel to disp	
						"	"	B		" " "	
						"	"	A		Overexposed	
						"	"	B			
								A			
								B			
100/60	4-5	6.5	A0p	HG12	G128/.7	13/.5	IIaDe	A	SpEm-Ly		
100/100		6.8	dR1	"	"	13/.5	IIaO-E	B	Abs Sp-KK		
							IIaO-E				
100/130	4-5	5.3	B3	HG12	G123/.7	13/.5	IIIaJ-E	A	SpEm-Ly	cloudy	sl wk

II 25 15 25 1
II 30 18 17 2

27 Spring removed new one from mount & checked

Fri/Sat

Date Mar. 24/25. 1978 Observers Ly-R.

Emulsion Batches:
IIIaJ-E 01126-22038
IIaO-E 20077-20038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42465	HD37468	05 33.7	- 2 39	19:25	21:20	03 34W	-2 35	FeARC No Filter	4-4-4
42465T1	spot cal for plates	42465-68, 70, 71			15min @ 15Volts	D4 3900			
42465T2	step cal for plates	42465-68, 70, 71			180sec				
42466	HD47105	6h 31.9	+16°29	21:24	21:54	03 10W	+16 25	FeARC No Filter	4-4-4
42467	HD45542	6 23.0	+20° 12'	21:57	22:52	04 17W	+20 15	Fe ARC No Filter	4-4-4
42468	HD87504	10 00.3	-12° 35'	22:57	00:07	01 55W	-12 56	Fe ARC No Filter	4-4-4
42469	HD131511	14h 48.9	+19°33	00:13	01:47	01 11E	+19 16	Fe ARC ND.1.10	8-8-8
42469T1	spot cal for plate	42469, 72		15min @ 15Volts		D4 D3 3900 4300	D2 4810		
42469T2	step cal for plate	42469, 72			90sec				
42470	HD139842	15 35.6	+36° 58	01:53	03:02	00 43E	+36 44	Fe Arc No Filter	4-4-4
42471	HD175426	18 50.2	+36° 51'	03:06	04:50	02 10E	+36 58	Fe Arc No Filter	4-4-4
42472	HD163506	17h 51.4	+26° 04	04:53	05:40	00h 20E	+26 03	Fe ARC ND1.10	8-8-8
42472T1	spot test	out of focus		2:30F	90R			NO FILTER	5/5

Spectr. Temp. 28°F Dome Temp./Hum. -6°C / 65% Transparency Conditions . Cloudy all night 328

Focus 9.2

Spectr. Temp. ~~200F~~ Dome Temp./Hum. -9°C / 80% what a difference a Secondary makes!!

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300/99	3-4	3.51	09.5V	NG12B	NG12B/.7	13/1.5	IIIaJ-E	A	Sp Bin-Blu	5 OBn AB	
							IIIaJ-E				
							IIIaJ-E				
200/182	3-4	1.9	A0III	NG12B	G12/.7	9/1.5	IIIaJ-E	B	Abs.-Sp-bk	γ Gem	v sl str
300/250	3-4	4.04	B7IVe	"	"	13/1.5	IIIaJ-E	A	Sp Bin-Blu	ν Gem	fine
300/241		4.51	B8V	"	"	"	IIIaJ-E	B	Sp Bin-Blu		
300/300		6.84	dk1	"	"	"	IIIaO-E	A	Abs Sp-bk		fine
							IIIaO-E				
							IIIaO-E				
300/242	3-4	4.95	B7V	NG12B	G12/.7	13/1.5	IIIaJ-E	B	Sp Bin-Blu/Ly	ζ² CrB Bor	
300/242		5.3	B3	"	"	"	IIIaJ-E	A	Sp Bin-Ly	δ' Lyr	
300/76		5.81	F2Ia	"	"	"	IIIaO-E	B	Cpt-Fe	89 Her, DAWN	fine
						9	IIIaO-E	B			
			IIIaJ	5½ min Dry	68°F				what a lot of crud in the		
			IIaO		18	178			sky!		

329 2nd Holt only

Two

Date Mar. 28. 1978 Observers B.A.-R.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42473	HD 137182	15h 19.5	+10° 54'	02:18	04 29	01 29	+10° 42'	Fe ARC D.D. 1.10	8·8
42473T1	optical for plates	42473			15 min @ 15 Volts	D4 3500	D3 4300	D2 4810	
42473T2	stop cal for plate	42473			90 sec				

Spectr. Temp. ...34°F........ Dome Temp./Hum. -0.1°C.....100% Transparency Conditions ....

but everything is dry outside

Focus ....80R..............

Spectr. Temp. ..34°F......... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
[illegible]/182	3-4	7.19	A0	N, G-12	G-12/ ,7	13/.5	IIaO-E	A	Am-MR	clouds	fine
							IIaO-E				
							IIaO-E				
					6m	D19	68° 21	180			

331

Tues - Wed

Date Mar 28-29 1978 Observers B.J.-R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42474	HD 96003	10h 59.3	+13° 12'	2002	21:30	01h 24E	+12 05'	Fe Arc N.D 1.10	8-16
4247491	stop-end to plate	42474			9Dec				

Spectr. T
Focus...
Spectr. T

Exp Mtr

Spectr. Temp. ...37°F..... Dome Temp./Hum. .....98% Transparency Conditions ...hazy.....3?2...

Focus .....80R.....

Spectr. Temp. ..... Dome Temp./Hum. ...0°C...100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30/77	3-4	6.75	Ap	N.G-12	G12/78	91.3	~~Ea0~~E	A	Ap-MR	CLOUDS	sl wk
							~~Ea0~~E				
						6"	D19 68°				

333

Wed-Thurs

Date Mar. 29-30 1978 Observers Bln-Tn/Fqi-Tn

Emulsion Batches:
IIIaJ-E 01126 - 22038
IIa0-E 20077 - 24038
098-02E 30097 - 16038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
42475	HD37463	05 33.7	-2 39	19:43	19:28	02 01W	-2° 28'	No Filter Fe Arc	4-4
42475T	Spot Calib for 42475			15min @	17.5V D4 3900		15V D4 4300	15V D4 4810	
42476	HD68021/2	10h 03m.8	+20° 49	19:34	22:11	00 19W	+20° 34'	Fe Arc No Filter	7-7-7
42476T	Spot Calib for 42476-77, 80			15min @ 15V		D4 3900	D3 4300 D2 4810		
42477	HD112028	12 48.3	+83 58	22:16	22:57	01 42E	+83 37	Fe Arc No Filter	7-8-7
42478	HD106677	12 11.0	+73 07	23:04	00:43	00:40W	+72 46	Fe Arc none	3-5-4
42478T	Spot Calib for 42478-79.			15min @	15D3 4810	7V D1 Hz	7V D2 5450		
42479	BD+36° 2344	13 06.0	+36° 28.0	00:50	03 11	2 14W	+36 10	Fe Arc No Filter	3-3-3
42480	HD186688	19 40.8	+29 01	03:22	04 47	2 45E	+29 20	Fe Arc ND 1.0	7-8-8
42480T	Strip Calib for 42476-77, 80.-81.						90sec		
42481	163506	17 51.4	+26° 04	04:51	05 25	0 16E	+26 10	Fe Arc ND 1.0	5-8-8
42481T	Strip Calib for 42475					180sec			
42481FL	Focus Test				in to / out of			Fe Arc none	12-12

Spectr. Temp. +36 °F ..... Dome Temp./Hum. +29°F/70% Transparency Conditions . Very good ... slight haze ... 334

Focus ..... OR .....

Spectr. Temp. ~~+30°F~~ ..... Dome Temp./Hum. +26°F/92%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
202/102	2"	3.51	09.5 II	G12	NG12/1.7B	13/1.5	IIIa-JE	A	Sp, Bin - Blu	broken 2pcs	
							IIIa-JE				
130	2-3"	7.20	0G5+A2	G12	NG12/1.7B	13/1.5	IIaO-E	B	VB Blu		flexure
							IIaO-E				
/141	2-3	5.2	Shell	G12	NG12/1.7B	13/1.5	IIa-0E	A	Blu - Shell		fine
/86	3"	v-5.42	K0	G16R	G16/1.7B	13/1.5	098-02E	B	RSCVn - Fgi	thin cloud	fine
							"				
/188	3	9.31	F4	G16R	G16/1.7B	18/1.5	098-a-e	A	RS CVn/Fgi	clear again	guiding
/264	3"	6.8-7.66	F0-G1	G12B	NG12/1.7B	13/1.5	IIaO-E	B	Cepheid/Evans	Brt. Prob. of Mar	
							IIaO-E				
/59	2"	5.81	F2Ia	G12B	G12/1.7B	13/1.5	IIaO-E	A	Ceph-Fe		fine
							IIIaJ-E		Is this necessary?	no!	
Set OR Temp +30°F				G12	G12	13	IIaJ	B			mod. blue shift
					IIIaJ	16 254					
					IIaO	20 161					
					098	28 196					

335

Emulsion Batches:
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Date .March. 31..... Observers ..Tn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42484T1	Flexure Test			3h 30 E	00 53 W		+10° 12	Fe Arc no Filter	9-9
F1	Focus Test				"		"	"	11-11
F2	Focus Test				"		"	"	11-11
T2	Grat Flex Test	Tried Moving grating			"		"	"	9-9
T3	Grat Flex Test	"	" "		"		"	"	9-9
T4	Flexure Test			4h 00 E	01 30 W		"	"	9-9
42482	Sky			14:45				"	15-15
42483	Sky			14:55				"	15-15
42483F1	Focus Test							"	5 5
42484	Sky			17:10				"	15-15
42484F0	Focus Test							"	5 5

Spectr. Temp. +40°F ..... Dome Temp./Hum. +35°F / H=100% Transparency Conditions 336

Focus ....9.0-R..... from 60R but not right

Spectr. Temp. ..... Dome Temp./Hum. ..... Bearings bled & new G12 remounted with plastic sheet instead of blower

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				G12 B	NG12/.78	9	Wood	A			
1 min	ow	out		"	"	9	"	B	set 90R	Temp 40° ?	center Too blue
"	"	"		"	"	9	"	B	Set 70R	Temp 40°F	center is/ blue
				"	"	9	"	A	Set 70R	Oncollimation to G8, I noticed that front bracket was reversed	
				G8 B	G16/1-.25B	9	"	A	"		
				G8 B	G16/1-.25B	9	"	A	"	Platen holder loosened & came at End	
				old G12	G12/.99B	9	"	B	Set 60R (from using dichroic, UV trans)		
				"	"	9	"	A			
				"	"	9	"	B			
				new G12	NG12/.675B	9	"	A			
				"	"	9	"	B			
						Flexure is worse, if anything & appears in both G8 & G12 spectra					

337 19:30 → 22[h]

Date Apr. 1, 78 Observers Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42475 T1	Spect Flexure Test			4[h] 0[m] E	0[h] 0[m]		+40°00	Fe Arc ND 1.10	6-12
T2	" "	"		0[h] 0[m]	4[h] 0 W		+40°00	"	12-6
F1	Focus Test	@ 4[h] W	grating changed at 4[h] W				+40°00	Fe Arc None	4-4
T3	Spect Flex Test			4[h] 0 W	0[h] 0[m]		+40°00	Fe Arc ND 1.10	6-12
F2	*Single Posy Flex Test	@ 0[h] 0[m]		0[h] 0[m]			+40°00	Fe Arc none	2-2
T4	Spect Flex Test			0[h] 0[m]	4 0 E		+40°00	Fe Arc none	12-6
T5	"			4 0 E	0 0		-3°	"	6-2
T6	"			0 0	4 0 W		-3°	"	12-6
F3	Focus Test	@ 0[h] 0					-3	"	1-1
T7	Dec Flex Test		δ	-3° →	+60°				12-6
F4	Focus Test	@ 0[h] 0					+60°		13-13
T8	Sp Flex Test			7[h] 0 E	2 0 W		+60°		6-6
T9	"			5 0 E	2 0 W		+60		6-7
T10	"			2 E	2 0 W		+30		6-6

Spectr. Temp. +41°F ..... Dome Temp./Hum. +37°F / 83% Transparency Conditions ..... very Gusty 336

Focus .....

Spectr. Temp. +39°F ..... Dome Temp./Hum +33°F / .....

At beginning I Found a screen for PHA in darkroom very necessary for field curve. I [illegible] & tightened PHA as well, some sl tightening required

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				G8B	G16/-25B	9	IIaO-E ✓	A	set 50R	using motor (All PHA in Tight)	
				"	"	9	" ✓	A	set 50R	using motor slit set	Fine
In in	out	out		NG12	G17/.7B	9	"	B	Temp 40.5°F	Set 50R	Very Subtle
				"	"	9	"	A	Set 50R	out of focus	
Manual c	Stellar posns			"	"	9	"	B	Temp 40°F	Set 50R	
				"	"	9	IIIaJ ✓	A		Set 50R by hand 1" broken motor	Flex
				"	"	9	" ✓	A		1" motor Worst	Bad
				"	"	9	" ✓	A		out 11"?	
In - slit out				"	"	9	"	B	Temp +40°F	Set 50 R	
				"	"	9	" ✓	B		Set 70R 50R→100R→70R bad	Flex
Focus / out of				"	"	9	"	B	Temp +39.5°F	Set 70R	
				"	"	9	" ✓	A		"	
out of Range at 0h				G8B	G16/-.25B	9	" ✓	A		"	Fair
				"	"	9	" ✓	A		"	Fair

339

Sat/Sun

Date Apr 1/2 1978 Observers Rm Tr

Emulsion Batches: IIaD-E 20077-30032

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp	Exp. Mtr.
42485	HD 186688 + SUCup	19h 40.8	+29° 01	03 45	05 20	1 59 E	+29 14	[illegible]	66-6	
42485T	Spot Calib for 42485-86				15 min @ 15V	D4 3900	D3 4300 D2 48	10		
42486	HD 172167	18h 33.6	+38 41	05 24	05 26	00 48E	+38 45	Fe Arc HD 140	11-1	40/16
42486F1	Focus Test				in in/out of			Fe Arc none	11--	
42486F2	" "				" "			Fe Arc none	11-14	

Spectr. Temp. +33°F Dome Temp./Hum. +26°F/80% Transparency Conditions Clear by 03 340
slightly gusty now
Focus 100R
Spectr. Temp. +31 °F Dome Temp./Hum. +24°F/83%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300/1.55	4'6"	6.8-7.7	FO G1	NG12	NG12/.7B	18/1.5	IIaOE	A	Cepk/Evans		slwf vbad flex focus?
							IIaOE				
40/10	4	0.0	AO	NG12	NG12/.7B	9/1.5	IIaOE	B	stavel		
						9	IIaJ	B	Temp +31°F	Set 100R a-O!	cant far blue
						9	"	B	" +31°F	(Set 100R +25R)	cant sl blue
					IIaO		2 on 73				

#1 SCW/MCW

Date Apr 4/5 73 Observers Fgi-Tn/Tn

Emulsion Batches: 098-026 [illegible] 16038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
42487F	Focus Test Attempt						+57°	[illegible] none	50-7
42487	HD65626	07 545	+57°33	19:25	20:50	1:15W	+57 26	Fe Arc none	44
42487T	Spot Calib for 42487			15 min @		15V D3 7V 4810 1Hz	D1 7V 52 5450		
42488	HD106677	12 11.0	+73 07	20:55	22:22	1:16E	+72 45	Fe Arc [illegible]	44
42489	HD106677	12 11.0	+73 07	22:23	00 47	00 52W	+72 45	Fe Arc NONE	464
42489F1	Focus Test					0 0	+40°	Fe Arc none	60-80
F2	"					0 0	+40°	"	15-20
T1	Single posn Flex Test					0 0	+40°	"	2[illegible]
T2	" " "	"				5 30W	+40°	"	2[illegible]
T3	" "	"				0 0	+40°	"	15-20
F3	Focus Test					0 0	+40°	"	13-17
T4	Single posn Flex Test					5 30W	+40°	"	15-20
T5	"					4 30E	+40°	"	15-25
T6	"					3 00E	+40		15-25
T7	"					3 00E	+10		1 2
T8*	Re Flex Test			3' E →	02 30 W	2 30W	+10		6-12

16038

Spectr. Temp. 31°F ..... Dome Temp./Hum. -2°C/68% Transparency Conditions Some haze, sl. cloud

Focus set 100R

Spectr. Temp. +29°F ..... Dome Temp./Hum. -3°C/85%

342

Comparison Type/Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	Instrument				G16R	G16/1.7B	13	IIIaJ+2	B	Temp +31°F	Set 100R Sky Hand	
FeArc	700/109	2"	7.1	G0	G16R	G16/1.7B	13/1.5	098-02E	A	RSCVn		
								"				
	200/50	3"	7.55	K0	G16R	G16/1.7B	13/1.5	098-02E	B	RS CVn/Eqi		
FeArc	200/37	"	7.55	K0	G16R	G16/1.7B	13/1.5	098-02E	A	RS CVn/Eqi cloud!		
	Instrument				"	"	9	IIIaJ	B	set 100R Temp +29°F		cont sl blue
"	"	"			G8	G16/1.25B	9	"	B	"	"	cont v sl blue
"	Normal stellar poln				"	"	9	"	A	"	"	OK
"	"	"			"	"	9	"	A	"		OK
"	"	"			NG12	G12/1.7B	9	"	A	"		cont v sl blue
"	min/out out				NG12	G12/1.7B	9	"	B	"	Temp +29°F	cont v sl blue
"	Normal stellar poln				"	"	9	"	A	"		cont v sl blue
"	"	"			"	"	9	"	A	"		Flat
"	"	"			"	"	9	"	A	"	Temp +29°	Flat
"	"	"			"	"	9	"	A	"		Flat
					"	"	9		B	" Test at 230V ± 10	*T8 followed by T9, a Single pass.	Flat v cd

Wed - Thurs

Date Apr. 5.6.1978 Observers K.K.-Tn / R.m.-Tr

Emulsion Batches:
IIaF 23117-09038
IIaD 20077-30038

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42490	HD 47105	6 31.9	+16 29	19 24	19 46	01 48 W	+16 25	Fe arc UV filt	15-15-15
42490T	Spot Calib for 42490-98.				15 min @	15V D4 4310	7V D3 Hα	7V D3 5450	
42491	HD 47105	6 31.9	+16 29	19 48	20 03	02 05 W	+16 25	Fe Arc UV only	15-15-15
42492	HD 61421	7 34.1	+5 29	20 06	20 12	01 12 W	+5 17	"	15-15-15
42493	"	"	"	20 14	20 20	01 20 W	"	"	15-15-15
42494	HD 47105	6 31.9	+16 29	20 23	20 34	02 35 W	+16 25	"	15-15-15
42495	"	"	"	20 36	20 50	2 52 W	"	"	15-15-
42496	"	"	"	20 52	21 08	3 10 W	"	"	15-15-15
42497	"	"	"	21 09	21 23	3 25 W	"	"	15-15-15
42498	HD 61421	7 34.1	+5 29	21 27	21 33	2 33 W	+5 17	"	15-15-1 + 50-50
42498F	Focus Test					0 0	+15°	"	
42499	HD 122742	13 58.6	+11 16	21 43	23 12	02 10 E	+	Fe Arc ND 1.0	8-8-8
42499T	Spot Calib for 42499				15 min @ 15V	D4 D3 D2 3900 4300 4810			
42500	HD 131511	14 48.9	+19 33	23 18	00 03	2 10 E	+19 13	Fe Arc ND 1.0	8-8-8
42501	HD 84401	9 44.5	+23° 53	00 15	00 28	3 24 W	+23 53	Fe Arc ND 1.0	15-15

Spectr. Temp. 41°F ..... Dome Temp./Hum. 38°F / 90 ..... 90 Transparency Conditions Fine 3431

Focus ... 120R .....

Spectr. Temp. ..... Dome Temp./Hum. ..... / .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10/?	2-3'	1.9	A0 IV	G16R	G16/.73	9/5	IIIaFe	A	AsmSp KK	IN Filter before slit	
							"			5450 sl wk	
40/70	2	1.9	A0 IV	G16R	G16/.78	9/5	IIIaF-e	B	"	"	
40/50	2-3	0.7	PS IV	"	"	9/5	"	A	"	"	
"	"	"	"	"	"	"	"	B	"	"	
40/70		1.9	A0 IV	"	"	"	"	A	"	"	
40/70	"	"	"	"	"	"	"	B	"	"	
40/70	3-4	"	"	"	"	"	"	A	"	"	
40/70	"	"	"	"	"	"	"	B	"	"	
40/50	3-4	0.7	PS IV	"	"	"	"	A	"	"	
					"	9	"	B	Temp +10°F Set 120R		Contin vsl. tomo
100/100	3	6.8	G8 V	NG12	NG12/.78	13/.5	IIIaO-e	A	AsmSp KK	sono cloud	
70/70	2-3'	6.84	A1	NG0	G12/.78	13/.3	IIIaO-e	B	AsmSp KK		fine
24		3.1	Sp	G8	G16/-.25	9/.5	IIIaO-E	A	CmC/Ap 6		fine

345 #2

Date Apr. 3-4, 1908 Grant Observers .....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
[illegible]	HD 13[illegible]	14 4[illegible]	+24 20	00h 36	01h 16	00 5E	+23 59	Fe Arc ND 110	8-8-8
42503	HD 163[illegible] Filter	17h 59.5	26°03	01 23	01 56	3 19 E	+26 02	Fe Arc ND 110	[illegible]
42504	HD 161096 93 Opt	17h 38.5	+4° 37	02 01	02 07	2 55E	+4° 35	Fe Arc ND 110	11-11
42504F	Focus Test					4h 51E	+27'	Fe Arc none	3-3
42505	HD 16[illegible] 18	19h 40.8	+27° 01	02 15	04 34	02 26E	+29 11	Fe Arc ND 110	8-8-8
42506	HD 161096 = 3 Opt.	17h 38.5	+4° 37	04 37	04 42	00 16E	+4° 35	"	11-11
42507	HD 14 72 55	16h 14.1	+33° 34	04 46	05 19	1h 40 W	+33 23	"	[illegible]
42507F1	Focus Test					5h 0E	+33 23	Fe Arc none	4-4
F2	" "					0 0	"	"	"

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions Fine vsl haze 246

Focus 120R

Spectr. Temp. +35°F Dome Temp./Hum. 132°F/98%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100/74		1m=50"	dG12	NG12	NG12/78	13/3	[illegible]OE	B	Asm Sp KK		Fine
"/110		5.5	F21	NG12	"	13/5	IIaE	A	Cyan/Fe		Fine
40/12	2"	3.43	K2III	"	"	13/5	IIaOE	B	Std Vel		
"	out	out				13	"	B	broken 1pc	saved but throwout if too much trouble	V V Sl red
30/2.37	2.3"	6.5-7.7	F0 G1	"	"	13/5	IIaO-E	A	Ceph/Extra		Flex 45" vsl wk
40/14		3.93	K2III	"	"	13/5	IIaOE	B	Std Vel		Fine
100/70	3"	6.18	A3II	"	"	13/5	IIaOE	A	SpBen/Glen		Fine
"	out	out	"	"	"	9	"	B	120R	Temp +35°F	
"				"	"	9	"	B	Set 120R	Temp +35°F	
				IIaO	5½ D19	68°					
				IIIaF	5m D19	68°					

347

T66-A25

Date Apr. 7-8 1978 (Fri-Sat) Observers Ky. - Tn.

Emulsion Batches:
IIIaJ-E 01126-05048
IIaO-E 23087 06043

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42508	HD37462	05 33.7	-2° 39'	19 29	19 47	2 55W	-2 33	Fe Arc No Filter	4-4-
42509	HD72208	08 26.5	+10 09	19.52	21:01	1 16W	+09 56	Fe Arc ND=1.10	7-8-
42510	HD72359	08 27.2	+10 24	21:04	22 00	2 13W	+10 12	"	8-9-
42510T	Spot Calib for	42509-10,12-13		15 min	@ 15V	D4 3900 D3 4300	D2 4800		
42509T	Spot Calib for	42508, 11, 14		15 min	@ 15V	D4 3900 D3 4300	D2 4800		
42511	HD47105	06 31.9	+16 29	22 05	22 14	04 23W	+16 30	Fe Arc [illegible]	5-5
42512	HD62044	07 37.0	+29 07	22 22	23 51	04 55W	+29 01	Fe Arc ND=11	12-
42513	HD84441	09 44.5	+23 53	23 54	00 14	03 15W	+23 57	"	20-20-
42514	HD91316	10 27.5	+09 49	00 23	00 38	02 53W	+09 27	Fe Arc No Filter	11-
42514T	Strip Calib for	42508, 11, 14				180 sec			
42515	HD91316	10 27.5	+09 49	00 40	00 54	03 08W	+09 27	Fe Arc No Filter	11-4-
42515T	Strip Calib for	42509-10, 12-13				90 sec			
42515F	Focus Test					00	+11°	Fe Arc no Filter	11-11

Spectr. Temp. 42°F Dome Temp./Hum. 38°F / 70% RH Transparency Conditions ... cirrus, aroral, hazy

Focus 130R

Spectr. Temp. 37°F Dome Temp./Hum. 31°F / 87%

* Junk on slit
No Flat

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30/104	3-4	3.5	09.5 III	G12	NG12/7	13/5	IIIaJ-e	A	Sp Bin - Bkgn		Fine *
400/100	"	6.5	A0p	"	"	13/5	IIaO-e	B	Sp Bin - Ly		Fine *
400 101	3	6.23	A0	"	"	"	"	A	Sp Bin - Ly		Fine *
							"				
	3						IIIaJ-e				
40/36		1.9	A0 III	G12	NG12/7B	9/5	IIIaJ-E	B	Abs Sp - K E	guidy.	
30/140	2-3	6.4	K0 III	G12	G16R/7B	"	IIaO e	A	Abs K Bin - Ly	"	
70/29	3	3.1	G0p II	"	"	"	IIaO-e	B	Ceph - Py		Fine *
300/100		3.7	B1Ib	G12	NG12/7B	13/5	IIIaJ-e	A	Em * - Ly		Fine *
							"				
400/42	2	3.7	B1Ib	G12	NG12/7B	9/5	IIIaJ-e	B	IIIaJ - Ly	dark	wk *
1200/20	fair	*		G12	NG12/7B	9	Set 130R	B	IIIaJ - ckd	Temp +36-37°F	
				II20	5 1/2 "						
				IIIaJ	5 1/2 "	9	6800 Å 20	169			
							15	245			

~~249~~ Sat-Sun

Date Apr. 8-9 / 78 Observers Tn.-Tn-Tn. etc

Emulsion Batches:
IIIaJ-E 01126-05048
IIaO-E 23087-06043

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42516F	Focus Test					1 30W	+20°	Fe Arc none	11-11
42516	HD 47105 3 Gem	06 31.9	+16 29	19 23	19 32	1 44W		Fe Arc none	5-5-5
42517	HD 37468 α ori AB	05 33.7	-2 39	19 35	19 54	3 06W		"	4-5-4
42517T	Spot Calib for 42516-17, 22.			15 min	17.5V D4 @ 3900	15V D4 4300	15V D4 4810		
42518	HD 34364 AR Aur	05 11.8	+33 39	19 58	21 11	4 44W	+33 55	Fe Arc ND 1.1	8-7-7
42518T	Spot Calib for 42518-21, 23-27.			15 min	D4 @ 15V 3900	D3 4300	D2 4810		
42519	HD 72208	08 26.5	+10 09	21 16	22 37	2 56W	+10 02	Fe Arc ND 1.1	8-8-8
42520	HD 72359	08 27.2	+10 24	22 39	23 51	4 11W	+10 18	"	8-8-8
42521	HD 112028	12 48.3	+83 58	00 01	00 30	0 30W	+83 40	"	8-8-8
42522	HD 139892	15 35.6	+36 58	00 41	01 24	1 23E	+36 36	Fe Arc none	5-4-4
42523	HD 161096 B Oph	17 38.5	+4 37	01 36	01 46	3 05E	+4 28	Fe Arc ND 1.10	11-12
42524	HD 175426 8 Lyr	18 50.2	+36 51	01 52	02 22	3 39E	+36 51	"	8-8-8
42525	HD 163506 89 Her	17 51.4	+26 04	02 26	02 56	2 07E	+25 57	"	8-8-8
42526	HD 186688	19 40.8	+29 01	02 59	05 05	1 47E	+29 05	"	8-8-8
42526T	Strip Calib for all IIIaJ.					90 sec			
42527	HD 161096	17 38.5	+4 37	05 09	05 15	0 24W	+4 28	Fe Arc ND 1.10	12-12

Spectr. Temp. +33°F ..... Dome Temp./Hum. +29F / 70% Transparency Conditions PHOTOMETRIC but gusty 350

Focus ... 140R ... (130–180 → 140) * Junk on slit 5¼" IIaO 20 175

Spectr. Temp. +30°F ..... Dome Temp./Hum. +29F / 72% no Fire* 5½" IIIaJ 15 245

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1 min / sunset				G12	NG12/17B	9	IIIaJ-Old	B	Set 140R Temp 33-34F		center ✓ no blue
70/36	2"	1.9	A0 IV	G12	NG12/17B	91.5	IIIaJ-E	A	Asm Sp HK		
200/100	3-5"	3.5	O9.5V	"	"	131.5	"	B	SB Blu		Fine
							"				
200/50	2-3"	6.8-6.5	Ap	G12	NG12/17B	131.5	IIaO-E	A	Ecl Bin-Blu		
							"				
200/95	2-4"	6.53	A0p	G12	NG12/17B	131.5	"	B	SB Ly	getting too gusty here	
200/88	3"	6.23	A0	"	"	"	"	A	"	loss wind	very ✓ Fine
200/50	2-3	5.2	shell	"	"	"	"	B	shell-Blu	South one	
200/120	2"	4.95	B7V	"	"	"	IIIaJ-E	A	SB-Blu/Ly	Reversed - SE comp	
120/14	3"	3.93	K2 III	"	"	"	IIaO-E	B	std vel	"	Fine
200/50	2"	5.2	B3	"	"	"	"	A	SB2-Ly	"	
200/50	3"	5.8	F2 Ia	"	"	"	"	B	Ceph-Fe	"	very? Fine
200/95	2-3	6.2-7.7*	F0-G1	"	"	"	"	A	Ceph-Rm	" * Lost Ref Focus some time	Fine
							"				
120/12	3	3.93	K-	G12	NG12/17B	131.5	"	B	std vel	Nov 1 just beaten	

391 Note focus changes for NG12, G16R, G88 should not be so extreme from near points, & Temp names from 40°F ?? it seems.

Emulsion Batches: ?

Date Apr 14/13, 7.8. 480/1000 Observers ...F.J.S...R.C.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
42528	HD 118216	13^h 30.3	+37° 42	00:55	01:26	00:59W	+37 17	Fe Arc NO FILTER	4-4-4
42529	HD 118216	13^h 30.3	+37° 42	01:33	02:05	01:37W	+37 17	Fe Arc NO FILTER	4-4-4
42529II	spectral hr plate	42528-			15mm	15U03 4810			
42530	HD 146361	16^h 10.9	+34° 07	02:10	02:50	00:17E	+33 54	Fe Arc NO FILTER	4-4-4
42531	HD146361	16^h 10.9	+34° 07	02:51	03:19	00:12W	+33 54	Fe Arc NO FILTER	4-4-4
42532	HD 146361	16^h 10.9	+34° 07	03:20	03:47	00:40W	+33 54	Fe Arc NO FILTER	4-4-4
42533	HD 163930	17^h 53	+15° 08.9	03:57	05.02	00:12W	+15 08	Fe Arc NO FILTER	4-4-4
42533II	focus test	on 42533							6-8

Spectr. Temp. 46°F Dome Temp./Hum. 7°C /87% Transparency Conditions ..intermittent clouds..

Focus 130R

Spectr. Temp. 48°F Dome Temp./Hum. 9°C /90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
T00/102		5.3	F2 III	G16	G16R/.78	13/1.5	098-02-e	A	RSCVn/Fgi	slt. flex.	
100/100		5.3	F2 III	G16	G16R/.78	13/1.5	098-02-e	B	RSCVn/Fgi	clouds slt. flex.	
							098-02e				
101		V=5.76	dF6	G16	G16R/.78	13/1.5	098-02-e	A	RSCVn/Fgi	No flex.	
100/100		V=5.76	dF6	G16	G16R/.78	13/1.5	098-02-e	B	RSCVn/Fgi	flexure	
102/102		V=5.76	dF6	G16	G16R/.78	13/1.5	098-02-e	A	RSCVn/Fgi	slt. flexure	fine
80/80		8.3	F4	G16	G16R/.78	18/1.5	098-02-e	B	RSCVn/Fgi	slt. flexure	
						9	-	B	48°F	130R centric to red	

1st Dig 68°F

253

Fri/Sat

Date ... April 14-15 1978 ... Observers ... Ly - R. ...

Emulsion Batches:
... 2207 ... 09048 ...
...
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
42534	HD 62644	7 37.0	+29 07'	22 03	23:16	04':49W	+28 57	Fe Arc N.D.1.1	20-20-20	30
42535	HD 84441	09" 40.1"	+24° 14'	23:21	23:38	03 09W	+23 53	Fe Arc N.D.1.1	20-20-20	27
42535T1	spot cal for plates 42534-			15 min @ 15 Volts		D4 3900	D3 4300	D2 4810		
42535T2	strip cal for plates 42534-				90 sec					
42536	HD 88021/2	10 03.8	+20 49'	23:50	01:47	01 54W	+20 27	Fe Arc N.D.1.1	8-8-8	30
42537	HD 131511	14'48 52	+19° 33	01:52	02:56	01'18W	+19°15'	Fe Arc N.D.1.1	8-8-8	111
42538	"	"	"	03:00	03:21	01 44W	"	Fe Arc N.D.1.1	8-8	
42535F1	focus	out all in						NO FILTER	55	

Spectr.
Focus
Spectr.

Spectr. Temp. 40°F Dome Temp./Hum. +10c 82% Transparency Conditions . cloud at first then clear 354

Focus 90R night seemed slow

Spectr. Temp. Dome Temp./Hum. intermittent cloud

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1/100	3	5.4	K1 III	GP	G16/ -.258	9/.3	IIaO-e	A	4m CTIO - L.	✓	sl str
45/ 28	3	3.1	G0 K(II)	G 8	G16/ -.258	91.5	IIaO-E	B	Copeland/Evans	✓	sl str
							IIaO-E				
							IIaO-E				
200/ 200		7.2	gG5+A2	G·2	NC12/ 7B	13/.5	IIaO-E	A	VB - Bln	tilt limit	fair
100/ 111		6.84	d/k1	G·12	"	"	"	B	Aga Sgr - VK	forgot to engage w/ate maybe blank	blank
100/ 16		"	"	"	"	"	"	A	"	interrupt. cloud.	wk
				90R	34°F		"	B		cloud solid.	
											on
					5½" Dif 68°F						

355

Emulsion Batches:

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Date ..... Observers .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Ex

357

Processing used, this volume:

		Time
Dev	D19	as recorded
Stop	1% Acetic Acid	1m
Fix 1 }	Kodak Ektaflo	5-10m
Fix 2 }		5m
Rinse		1m
Perma wash		1m
Wash		15m
Photoflo in distilled water		few seconds

All with N_2 burst agitation
every 10^s in dev, stop, & hypo clear
every 30^s otherwise

Strip calibrator dismantled & bare wires replaced 17 Feb 78

'78 Feb 17-23 Stainless steel arc (6y cmm) instead of Fe

SECONDARY REALUMINIZED
MAR 20, 1978

BLAZE ARROW POINTS SOUTH!

356